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(54) Title: GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

(57) Abstract

This invention relates to novel human genes, to proteins expressed by the genes, and to variants of the proteins. The invention also relates to diagnostic and therapeutic agents related to the genes and proteins, including probes, antisense constructs, and antibodies. The invention further relates to polynucleotides differentially expressed in prostate cancer.

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GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

FIELD OF THE INVENTION

This invention relates to the area of diagnosis, prognosis, and treatment of cancer, tumor progression, hyperproliferative cell growth, and accompanying physical and biological manifestations. More specifically, the invention includes polynucleotides that are differentially regulated in prostatic disorders, such as metastatic prostate cancer, localized prostate cancer, and benign prostate hyperplasia (BPH).

BACKGROUND OF THE INVENTION

Genes that are up- or down-regulated in cancer or tumor progression are useful for therapeutic and diagnostic purposes. For example, detection of genes or gene expression products up-regulated in hyperproliferative cells can be a predictive or diagnostic marker of the onset or the progression of cancer. Early diagnosis can be useful if the cancer, tumors, or hyperproliferating cells can be inhibited, removed, or terminated to prevent metastasis or recurrence of cancerous growth. Such early warning is of particular use to prostate cancer patients, where removal of the growth, tumor, or cells is beneficial if the disease is confined to the prostate. There is a need in the art for genes related to cancer and tumor progression.

SUMMARY OF THE INVENTION

The present invention provides methods and reagents for diagnosing cancer, tumor progression, hyperproliferative cell growth, and accompanying biological and physical manifestations. Reagents for such diagnostic kits include:

- (a) polynucleotides comprising a sequence capable of hybridizing to one or more of SEQ ID NO:1-339 or complement thereof;
- (b) polypeptides comprising the amino acid sequence encoded by any one of SEQ ID NO:1-339; and
 - (c) antibodies capable of binding polypeptides comprising the amino acid sequence of (b).

The methods of diagnosis of the present invention include both nucleic acid assays and immunoassays.

In another embodiment, the present invention provides both compositions and methods for treating or ameliorating cancer, tumor progression, hyperproliferative cell growth, and accompanying biological and physical manifestations. The compositions for treatment or amelioration include:

- (a) polynucleotides comprising the sequence capable of hybridizing to one or more of the sequences shown in SEQ ID NO:1-339 and complement thereof, including antisense, ribozyme and gene therapy nucleic acid constructs;
- 10 (b) polypeptides comprising the amino acid sequence encoded by any one of SEQ ID NO:1-339; and
 - (c) antibodies capable of binding polypeptides of polypeptides comprising the amino acid sequence (b).

Methods of treatment or amelioration include administering compositions of polynucleotides, polypeptides, antibodies, or combinations thereof and can be used

- (a) to inhibit translation and/or transcription;
- (b) to inhibit biological activity;
- (c) as a vaccine antigen; and
- (d) as an immune system inducer.
- 20 Such compositions can be administered systemically or locally to the desired site.

In one embodiment, the present invention provides a composition comprising an isolated polynucleotide selected from the group consisting of

- (a) any one of SEQ ID NOs:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 25 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259,
 - 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
 - (b) a polynucleotide that encodes a variant of the polypeptide encoded by (a); and
- (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of any one of the sequences of (a).

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Preferably, the nucleic acid obtained from the biological material of part (b) above is genomic DNA or mRNA. The nucleic acid can also be cDNA complementary to the mRNA.

Another embodiment of the invention is the use of the isolated 5 polynucleotides or parts thereof as diagnostic probes or as primers.

In another embodiment, the present invention provides a composition comprising a polypeptide, wherein said polypeptide is selected from the group consisting of:

- (a) a polypeptide encoded by any one of SEQ ID Nos:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
 - (b) a polypeptide encoded by full-length mRNA or cDNA corresponding to any one of SEQ ID NO:1-339; and
 - (c) a variant of the protein (a) or (b);

In certain preferred embodiments, the polynucleotide is operably linked to an expression control sequence. The invention further provides a host cell, including bacterial, yeast, insect and mammalian cells, transformed with the polynucleotide sequence. The invention also provides the full-length cDNA and the full length human gene corresponding to the polynucleotide.

Protein and polypeptide compositions of the invention may further comprise a pharmaceutically acceptable carrier. Compositions comprising an antibody that specifically reacts with such protein or polypeptide are also provided by the present invention.

The invention further relates to a polypeptide or nucleic acid obtained by transforming a host cell with nucleic acid comprising at least one of SEQ ID NO:1-339, culturing the host cell, and recovering the replicated nucleic acid, the expressed RNA, and/or the expressed polypeptide.

Brief Description of the Figures

Figure 1 provides the open reading frame for clone SL 195.

Figure 2 provides the open reading frame for clone SL 197.

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Figure 3 provides the immunohistochemistry staining results for clone SL 5 expression in a variety of normal and tumor tissues.

Detailed Description of the Invention

Genes that are up- or down-regulated in cancer or tumor progression are useful for therapeutic and diagnostic purposes. For example, a diagnostic assay to determine the stage of the disease also is useful in tailoring treatment of aggressive versus more mild cancer or tumor progression. The polynucleotide sequences and encoded polypeptides of the present invention are useful for these diagnostic or prognostic purposes.

Further, modulation of genes or gene expression products that are misregulated can be used to treat or ameliorate cancer, tumor progression, hyperproliferative cell growth, and the accompanying physical and biological manifestations. For example, the polynucleotide sequences provided herein as SEQ ID NO:1-339, can be used to construct the following polynucleotide and polypeptide compositions that are useful for treatment: antisense; ribozymes; antibodies; vaccine antigens; and immune system inducers, to induce dendritic cells, for example.

Identified herein are polynucleotide sequences that are upregulated in a cancer cell line, more specifically in a prostate cancer cell line. Thus, the present invention relates to methods and reagents for diagnosis, and to methods and compositions for treatment.

I. Use of Polynucleotides Having a Sequence of One or More of SEQ ID NO:1-339 to Obtain Full-Length cDNA and Full-Length Human Gene and Promoter Region

Full-length cDNA molecules comprising the disclosed sequences are obtained as follows. The polynucleotide or a portion thereof comprising at least 12, 15, 18, or 20 nucleotides is used as a hybridization probe to detect hybridizing members of a cDNA library using probe design methods, cloning methods, and clone selection techniques as described in U.S. Patent No. 5,654,173, "Secreted Proteins and Polynucleotides Encoding Them," incorporated herein by reference. Libraries of cDNA are made from selected tissues, such as normal or tumor tissue, or from tissues of a

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mammal treated with, for example, a pharmaceutical agent. Preferably, the tissue is the same as that used to generate the polynucleotides, as both the polynucleotides and the cDNA represent expressed genes. Most preferably, the cDNA library is made from the biological material described herein in the Examples. Alternatively, many cDNA libraries are available commercially. (Sambrook et al., Molecular Cloning: A Laboratory Manual, 2nd Ed. (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989).

Members of the library that are larger than the polynucleotide, and preferably that contain the whole sequence of the native message, are obtained. In order to confirm that the entire cDNA has been obtained, RNA protection experiments are performed as follows. Hybridization of a full-length cDNA to an mRNA will protect the RNA from RNase degradation. If the cDNA is not full length, then the portions of the mRNA that are not hybridized will be subject to RNase degradation. This is assayed, as is known in the art, by changes in electrophoretic mobility on polyacrylamide gels, or by detection of released monoribonucleotides. Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual, 2nd Ed.* (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989). In order to obtain additional sequences 5' to the end of a partial cDNA, 5' RACE (PCR Protocols: A Guide to Methods and Applications (Academic Press, Inc. 1990)) is performed.

Genomic DNA is isolated using polynucleotides in a manner similar to the isolation of full-length cDNAs. Briefly, the polynucleotides, or portions thereof, are used as probes to libraries of genomic DNA. Preferably, the library is obtained from the cell type that was used to generate the polynucleotides, but this is not essential. Most preferably, the genomic DNA is obtained from the biological material described herein in the Examples. Such libraries may be in vectors suitable for carrying large segments of a genome, such as P1 or YAC, as described in detail in Sambrook *et al.*, 9.4-9.30. In addition, genomic sequences can be isolated from human BAC libraries, which are commercially available from Research Genetics, Inc., Huntville, Alabama, USA, for example. In order to obtain additional 5' or 3' sequences, chromosome walking is performed, as described in Sambrook *et al.*, such that adjacent and

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overlapping fragments of genomic DNA are isolated. These are mapped and pieced together, as is known in the art, using restriction digestion enzymes and DNA ligase.

Using the polynucleotides sequences of the invention, corresponding full length genes can be isolated using both classical and PCR methods to construct and probe cDNA libraries. Using either method, Northern blots, preferably, are performed on a number of cell types to determine which cell lines express the gene of interest at the highest rate.

Classical methods of constructing cDNA libraries are taught in Sambrook et al., supra. With these methods, cDNA can be produced from mRNA and inserted into viral or expression vectors. Typically, libraries of mRNA comprising poly(A) tails can be produced with poly(T) primers. Similarly, cDNA libraries can be produced using the instant sequences as primers.

PCR methods are used to amplify the members of a cDNA library that comprise the desired insert. In this case, the desired insert will contain sequence from the full length cDNA that corresponds to the instant ESTs. Such PCR methods include gene trapping and RACE methods. Gruber *et al.*, PCT WO 95/04745 and Gruber *et al.*, U.S. Pat. No. 5,500,356. Kits are commercially available to perform gene trapping experiments from, for example, Life Technologies, Gaithersburg, Maryland, USA. PCT Pub. No. WO 97/19110. (Apte and Siebert, *Biotechniques 15*:890-893, 1993; Edwards *et al.*, *Nuc. Acids Res. 19*:5227-5232, 1991).

The promoter region of a gene generally is located 5' to the initiation site for RNA polymerase II, and can be obtained by performing 5' RACE using a primer from the coding region of the gene. Alternatively, the cDNA can be used as a probe for the genomic sequence, and the region 5' to the coding region is identified by "walking up." If the gene is highly expressed or differentially expressed, the promoter from the gene may be of use in a regulatory construct for a heterologous gene.

Once the full-length cDNA or gene is obtained, DNA encoding variants can be prepared by site-directed mutagenesis, described in detail in Sambrook *et al.*, 15.3-15.63. The choice of codon or nucleotide to be replaced can be based on disclosure herein on optional changes in amino acids to achieve altered protein structure and/or function.

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As an alternative method to obtaining DNA or RNA from a biological material, nucleic acid comprising nucleotides having the sequence of one or more polynucleotides of the invention can be synthesized. Thus, the invention encompasses nucleic acid molecules ranging in length from 15 nucleotides (corresponding to at least 15 contiguous nucleotides of one of SEQ ID NO:1-339) up to a maximum length suitable for one or more biological manipulations, including replication and expression, of the nucleic acid molecule. The invention includes but is not limited to (a) nucleic acid having the size of a full gene, and comprising at least one of SEQ ID NO:1-339; (b) the nucleic acid of (a) also comprising at least one additional gene, operably linked to permit expression of a fusion protein; (c) an expression vector comprising (a) or (b); (d) a plasmid comprising (a) or (b); and (e) a recombinant viral particle comprising (a) or (b).

The sequence of a nucleic acid comprising at least 15 contiguous nucleotides of at least any one of SEQ ID NO:1-339, preferably the entire sequence of at least any one of SEQ ID NO:1-339, is not limited and can be any sequence of A, T, G, and/or C (for DNA) and A, U, G, and/or C (for RNA) or modified bases thereof, including inosine and pseudouridine. The choice of sequence will depend on the desired function and can be dictated by coding regions desired, the intron-like regions desired, and the regulatory regions desired.

Where the entire sequence of any one of SEQ ID NO:1-339 is within the nucleic acid, the nucleic acid obtained is referred to herein as a polynucleotide comprising the sequence of any one of SEQ ID NO:1-339.

II. Expression of Polypeptide Encoded by Full-Length cDNA or Full-Length Gene

The polynucleotide, the corresponding cDNA, or the full-length gene is used to express the partial or complete gene product. Appropriate polynucleotide constructs are purified using standard recombinant DNA techniques as described in, for example, Sambrook et al., (1989) Molecular Cloning: A Laboratory Manual, 2nd ed. (Cold Spring Harbor Press, Cold Spring Harbor, New York). The polypeptides encoded by the polynucleotides are expressed in any expression system, including, for example,

bacterial, yeast, insect, amphibian and mammalian systems. Suitable vectors and host cells are described in U.S. Patent No. 5,654,173.

Bacteria. Expression systems in bacteria include those described in Chang et al., Nature (1978) 275:615, Goeddel et al., Nature (1979) 281:544, Goeddel et al., Nucleic Acids Res. (1980) 8:4057; EP 0 036,776, U.S. Patent No. 4,551,433, DeBoer et al., Proc. Natl. Acad. Sci. (USA) (1983) 80:21-25, and Siebenlist et al., Cell (1980) 20:269.

Yeast. Expression systems in yeast include those described in Hinnen et al., Proc. Natl. Acad. Sci. (USA) (1978) 75:1929; Ito et al., J. Bacteriol. (1983) 153:163; Kurtz et al., Mol. Cell. Biol. (1986) 6:142; Kunze et al., J. Basic Microbiol. (1985) 25:141; Gleeson et al., J. Gen. Microbiol. (1986) 132:3459, Roggenkamp et al., Mol. Gen. Genet. (1986) 202:302) Das et al., J. Bacteriol. (1984) 158:1165; De Louvencourt et al., J. Bacteriol. (1983) 154:737, Van den Berg et al., Bio/Technology (1990) 8:135; Kunze et al., J. Basic Microbiol. (1985) 25:141; Cregg et al., Mol. Cell. Biol. (1985) 5:3376, U.S. Patent Nos. 4,837,148 and 4,929,555; Beach and Nurse, Nature (1981) 300:706; Davidow et al., Curr. Genet. (1985) 10:380, Gaillardin et al., Curr. Genet. (1985) 10:49, Ballance et al., Biochem. Biophys. Res. Commun. (1983) 112:284-289; Tilburn et al., Gene (1983) 26:205-221, Yelton et al., Proc. Natl. Acad. Sci. (USA) (1984) 81:1470-1474, Kelly and Hynes, EMBO J. (1985) 4:475479; EP 0 244,234, and WO 91/00357.

Insect Cells. Expression of heterologous genes in insects is accomplished as described in U.S. Patent No. 4,745,051, Friesen et al. (1986) "The Regulation of Baculovirus Gene Expression" in: The Molecular Biology Of Baculoviruses (W. Doerfler, ed.), EP 0 127,839, EP 0 155,476, and Vlak et al., J. Gen. Virol. (1988) 69:765-776, Miller et al., Ann. Rev. Microbiol. (1988) 42:177, Carbonell et al., Gene (1988) 73:409, Maeda et al., Nature (1985) 315:592-594, Lebacq-Verheyden et al., Mol. Cell. Biol. (1988) 8:3129; Smith et al., Proc. Natl. Acad. Sci. (USA) (1985) 82:8404, Miyajima et al., Gene (1987) 58:273; and Martin et al., DNA (1988) 7:99. Numerous baculoviral strains and variants and corresponding permissive insect host cells from hosts are described in Luckow et al., Bio/Technology

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(1988) 6:47-55, Miller et al., Generic Engineering (Setlow, J.K. et al. eds.), Vol. 8 (Plenum Publishing, 1986), pp. 277-279, and Maeda et al., Nature, (1985) 315:592-594.

Mammalian Cells. Mammalian expression is accomplished as described in Dijkema et al., EMBO J. (1985) 4:761, Gorman et al., Proc. Natl. Acad. Sci. (USA) 5 (1982) 79:6777, Boshart et al., Cell (1985) 41:521 and U.S. Patent No. 4,399,216. Other features of mammalian expression are facilitated as described in Ham and Wallace, Meth. Enz. (1979) 58:44, Barnes and Sato, Anal. Biochem. (1980) 102:255, U.S. Patent Nos. 4,767,704, 4,657,866, 4,927,762, 4,560,655, WO 90/103430, WO 87/00195, and U.S. RE 30,985.

Polynucleotide molecules comprising the polynucleotide sequence are propagated by placing the molecule in a vector. Viral and non-viral vectors are used, including plasmids. The choice of plasmid will depend on the type of cell in which propagation is desired and the purpose of propagation. Certain vectors are useful for amplifying and making large amounts of the desired DNA sequence. Other vectors are suitable for expression in cells in culture. Still other vectors are suitable for transfer and expression in cells in a whole animal or person. The choice of appropriate vector is well within the skill of the art. Many such vectors are available commercially. The polynucleotide is inserted into a vector typically by means of DNA ligase attachment to a cleaved restriction enzyme site in the vector. Alternatively, the desired nucleotide sequence may be inserted by homologous recombination in vivo. Typically this is accomplished by attaching regions of homology to the vector on the flanks of the desired nucleotide sequence. Regions of homology are added by ligation of oligonucleotides, or by polymerase chain reaction using primers comprising both the region of homology and a portion of the desired nucleotide sequence, for example.

Polynucleotides are linked to regulatory sequences as appropriate to obtain the desired expression properties. These may include promoters (attached either at the 5' end of the sense strand or at the 3' end of the antisense strand), enhancers, terminators, operators, repressors, and inducers. The promoters may be regulated or constitutive. In some situations it may be desirable to use conditionally active promoters, such as tissue-specific or developmental stage-specific promoters. These are

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linked to the desired nucleotide sequence using the techniques described above for linkage to vectors. Any techniques known in the art may be used.

When any of the above host cells, or other appropriate host cells or organisms, are used to replicate and/or express the polynucleotides or nucleic acids of the invention, the resulting replicated nucleic acid, RNA, expressed protein or polypeptide, is within the scope of the invention as a product of the host cell or organism. The product is recovered by any appropriate means known in the art.

Once the gene corresponding to the polypeptide is identified, its expression can be regulated in the cell to which the gene is native. For example, an endogenous gene of a cell can be regulated by an exogenous regulatory sequence as disclosed in U.S. Patent No. 5,641,670, "Protein Production and Protein Delivery."

Ribozymes

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Trans-cleaving catalytic RNAs (ribozymes) are RNA molecules possessing endoribonuclease activity. Ribozymes are specifically designed for a particular target, and the target message must contain a specific nucleotide sequence. They are engineered to cleave any RNA species site-specifically in the background of cellular RNA. The cleavage event renders the mRNA unstable and prevents protein expression. Importantly, ribozymes can be used to inhibit expression of a gene of unknown function for the purpose of determining its function in an in vitro or in vivo context, by detecting the phenotypic effect.

One commonly used ribozyme motif is the hammerhead, for which the substrate sequence requirements are minimal. Design of the hammerhead ribozyme is disclosed in Usman et al., Current Opin. Struct. Biol. (1996) 6:527-533. Usman also discusses the therapeutic uses of ribozymes. Ribozymes can also be prepared and used as described in Long et al., FASEB J. (1993) 7:25; Symons, Ann. Rev. Biochem. (1992) 61:641; Perrotta et al., Biochem. (1992) 31:16-17; Ojwang et al., Proc. Natl. Acad. Sci. (USA) (1992) 89:10802-10806; and U.S. Patent No. 5,254,678. Ribozyme cleavage of HIV-I RNA is described in U.S. Patent No. 5,144,019; methods of cleaving RNA using ribozymes is described in U.S. Patent No. 5,116,742; and methods for increasing the specificity of ribozymes are described in U.S. Patent No. 5,225,337 and Koizumi et al.,

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Nucleic Acid Res. (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hammerhead structure are also described by Koizumi et al., Nucleic Acids Res. (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hairpin structure are described by Chowrira and Burke, Nucleic Acids Res. (1992) 20:2835. Ribozymes can also be made by rolling transcription as described in Daubendiek and Kool, Nat. Biotechnol. (1997) 15(3):273-277.

The hybridizing region of the ribozyme may be modified or may be prepared as a branched structure as described in Horn and Urdea, *Nucleic Acids Res.* (1989) 17:6959-67. The basic structure of the ribozymes may also be chemically altered in ways familiar to those skilled in the art, and chemically synthesized ribozymes can be administered as synthetic oligonucleotide derivatives modified by monomeric units. In a therapeutic context, liposome mediated delivery of ribozymes improves cellular uptake, as described in Birikh *et al.*, *Eur. J. Biochem.* (1997) 245:1-16.

Therapeutic and functional genomic applications of ribozymes proceed beginning with knowledge of a portion of the coding sequence of the gene to be inhibited. Thus, for many genes, a polynucleotide sequence as disclosed herein provides adequate sequence for constructing an effective ribozyme. A target cleavage site is selected in the target sequence, and a ribozyme is constructed based on the 5' and 3' nucleotide sequences that flank the cleavage site. Retroviral vectors are engineered to express monomeric and multimeric hammerhead ribozymes targeting the mRNA of the target coding sequence. These monomeric and multimeric ribozymes are tested in vitro for an ability to cleave the target mRNA. A cell line is stably transduced with the retroviral vectors expressing the ribozymes, and the transduction is confirmed by Northern blot analysis and reverse-transcription polymerase chain reaction (RT-PCR). The cells are screened for inactivation of the target mRNA by such indicators as reduction of expression of disease markers or reduction of the gene product of the target mRNA.

<u>Antisense</u>

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Antisense nucleic acids are designed to specifically bind to RNA, resulting in the formation of RNA-DNA or RNA-RNA hybrids, with an arrest of DNA replication, reverse transcription or messenger RNA translation. Antisense polynucleotides based on a selected sequence can interfere with expression of the corresponding gene. Antisense polynucleotides are typically generated within the cell by expression from antisense constructs that contain the antisense EST strand as the transcribed strand. Antisense polynucleotides will bind and/or interfere with the translation of the corresponding mRNA. The expression products of control cells and cells treated with the antisense construct are compared to detect the protein product of the gene corresponding to the polynucleotide. The protein is isolated and identified using routine biochemical methods.

Antisense therapy for a variety of cancers is in clinical phase and has been discussed extensively in the literature. Reed reviewed antisense therapy directed at the Bcl-2 gene in tumors; gene transfer-mediated overexpression of Bcl-2 in tumor cell lines conferred resistance to many types of cancer drugs. (Reed, J.C., N.C.I. (1997) 89:988-990). The potential for clinical development of antisense inhibitors of ras is discussed by Cowsert, L.M., Anti-Cancer Drug Design (1997) 12:359-371. Additional important antisense targets include leukemia (Geurtz, A.M., Anti-Cancer Drug Design (1997) 12:341-358); human C-ref kinase (Monia, B.P., Anti-Cancer Drug Design (1997) 12:327-339); and protein kinase C (McGraw et al., Anti-Cancer Drug Design (1997) 12:315-326.

Given the extensive background literature and clinical experience in antisense therapy, one skilled in the art can use selected polynucleotides of the invention as additional potential therapeutics. The choice of polynucleotide can be narrowed by first testing them for binding to "hot spot" regions of the genome of cancerous cells. If a polynucleotide is identified as binding to a "hot spot", testing the polynucleotide as an antisense compound in the corresponding cancer cells clearly is warranted.

Ogunbiyi et al., Gastroenterology (1997) 113(3):761-766 describe prognostic use of allelic loss in colon cancer, Barks et al., Genes, Chromosomes, and

Cancer (1997) 19(4):278-285 describe increased chromosome copy number detected by FISH in malignant melanoma; Nishizake et al., Genes, Chromosomes, and Cancer (1997) 19(4):267-272 describe genetic alterations in primary breast cancer and their metastases and direct comparison using modified comparative genome hybridization; and Elo et al., Cancer Research (1997) 57(16):3356-3359 disclose that loss of heterozygosity at 16z24.1-q24.2 is significantly associated with metastatic and aggressive behavior of prostate cancer.

Dominant Negative Mutations

Dominant negative mutations are readily generated for corresponding proteins that are active as homomultimers. A mutant polypeptide will interact with wild-type polypeptides (made from the other allele) and form a non-functional multimer. Thus, a mutation is in a substrate-binding domain, a catalytic domain, or a cellular localization domain. Preferably, the mutant polypeptide will be overproduced. Point mutations are made that have such an effect. In addition, fusion of different polypeptides of various lengths to the terminus of a protein can yield dominant negative mutants. General strategies are available for making dominant negative mutants. See Herskowitz, *Nature* (1987) 329:219-222. Such a technique can be used for creating a loss of function mutation, which is useful for determining the function of a protein.

Identification of Secreted and Membrane-Bound Polypeptides

Both secreted and membrane-bound polypeptides of the present invention are of interest. For example, levels of secreted polypeptides can be assayed conveniently in body fluids, such as blood, urine, prostatic fluid and semen. Membrane-bound polypeptides are useful for constructing vaccine antigens or inducing an immune response. Such antigens would comprise all or part of the extracellular region of the membrane-bound polypeptides.

Because both secreted and membrane-bound polypeptides comprise a fragment of contiguous hydrophobic amino acids, hydrophobicity predicting algorithms can be used to identify such polypeptides.

A signal sequence is usually encoded by both secreted and membranebound polypeptide genes to direct a polypeptide to the surface of the cell. The signal

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sequence usually comprises a stretch of hydrophobic residues. Such signal sequences can fold into helical structures.

Membrane-bound polypeptides typically comprise at least one transmembrane region that possesses a stretch of hydrophobic amino acids that can transverse the membrane. Some transmembrane regions also exhibit a helical structure.

Hydrophobic fragments within a polypeptide can be identified by using computer algorithms. Such algorithms include Hopp & Woods, <u>Proc. Natl. Acad. Sci. USA 78</u>: 3824-3828 (1981); Kyte & Doolittle, <u>J. Mol. Biol. 157</u>: 105-132 (1982); and RAOAR algorithm, Degli Esposti *et al.*, <u>Eur. J. Biochem. 190</u>: 207-219 (1990).

Another method of identifying secreted and membrane-bound polypeptides is to translate the present polynucleotides, SEQ ID NO:1-339, in all six frames and determine if at least 8 contiguous hydrophobic amino acids are present. Those translated polypeptides with at least 8; more typically, 10; even more typically, 12 contiguous hydrophobic amino acids are considered to be either a putative secreted or membrane bound polypeptide. Hydrophobic amino acids include alanine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, threonine, tryptophan, tyrosine, and valine.

Putative secreted and/or membrane-bound polypeptides are encoded by the sequences of the following clones: SL-5, SL-6, SL-9, SL-11, SL-13, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, and SL-177.

Construction of Polypeptides of the Invention and Variants Thereof

The polypeptides of the invention include those encoded by the disclosed polynucleotides. These polypeptides can also be encoded by nucleic acids that, by virtue of the degeneracy of the genetic code, are not identical in sequence to the disclosed polynucleotides. Thus, the invention includes within its scope nucleic acids comprising polynucleotides encoding a protein or polypeptide expressed by a polynucleotide having the sequence of any one of SEQ ID NO:1-339. Also within the scope of the invention are variants; variants of polypeptides include mutants, fragments, and fusions. Mutants can include amino acid substitutions, additions or deletions. The amino acid substitutions can be conservative amino acid substitutions or substitutions to

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eliminate non-essential amino acids, such as to alter a glycosylation site, a phosphorylation site or an acetylation site, or to minimize misfolding by substitution or deletion of one or more cysteine residues that are not necessary for function. Conservative amino acid substitutions are those that preserve the general charge, hydrophobicity/hydrophilicity, and/or steric bulk of the amino acid substituted. For example, substitutions between the following groups are conservative: Gly/Ala, Val/Ile/Leu, Asp/Glu, Lys/Arg, Asn/Gln, Ser/Cys,Thr, and Phe/Trp/Tyr.

Cysteine-depleted muteins are variants within the scope of the invention. These variants can be constructed according to methods disclosed in U.S. Patent No. 4,959,314, "Cysteine-Depleted Muteins of Biologically Active Proteins." The patent discloses how to substitute other amino acids for cysteines, and how to determine biological activity and effect of the substitution. Such methods are suitable for proteins according to this invention that have cysteine residues suitable for such substitutions, for example to eliminate disulfide bond formation.

The protein variants described herein are encoded by polynucleotides that are within the scope of the invention. The genetic code can be used to select the appropriate codons to construct the corresponding variants.

The invention encompasses polynucleotide sequences having at least 65% sequence identity to any one of SEQ ID NOs:1-339 as determined by the Smith-Waterman homology search algorithm as implemented in MSPRCH program (Oxford Molecular) using an affine gap search with the following search parameters: gap open penalty of 12, and gap extension penalty of 1.

Use of the Polynucleotides as Probes, in Mapping, and in Tissue Profiling

Probes

Polynucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence of a polynucleotide of SEQ ID NO:1-339 are used for a variety of purposes, including identification of human chromosomes and determining transcription levels.

The nucleotide probes are labeled, for example, with a radioactive, 30 fluorescent, biotinylated, or chemiluminescent label, and detected by well known

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methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations which are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to a polynucleotide should provide a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with other unrelated sequences.

In a non-limiting example, commercial programs are available for identifying regions of chromosomes commonly associated with disease, such as cancer. 10 Polynucleotides of the invention can be used to probe these regions. For example, if through profile searching a polynucleotide is identified as corresponding to a gene encoding a kinase, its ability to bind to a cancer-related chromosomal region will suggest its role as a kinase in one or more stages of tumor cell development/growth. Although some experimentation would be required to elucidate the role, the polynucleotide constitutes a new material for isolating a specific protein that has potential for developing a cancer diagnostic or therapeutic.

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Nucleotide probes are used to detect expression of a gene corresponding to the polynucleotide. For example, in Northern blots, mRNA is separated electrophoretically and contacted with a probe. A probe is detected as hybridizing to an mRNA species of a particular size. The amount of hybridization is quantitated to determine relative amounts of expression, for example under a particular condition. Probes are also used to detect products of amplification by polymerase chain reaction. The products of the reaction are hybridized to the probe and hybrids are detected. Probes are used for in situ hybridization to cells to detect expression. Probes can also be used in vivo for diagnostic detection of hybridizing sequences. Probes are typically labeled with a radioactive isotope. Other types of detectable labels may be used such as chromophores, fluors, and enzymes.

Expression of specific mRNA can vary in different cell types and can be tissue specific. This variation of mRNA levels in different cell types can be exploited with nucleic acid probe assays to determine tissue types. For example, PCR, branched DNA probe assays, or blotting techniques utilizing nucleic acid probes substantially

identical or complementary to polynucleotides listed in the Sequence Listing can determine the presence or absence of cDNA or mRNA related to the polynucleotides of the invention.

Examples of a nucleotide hybridization assay are described in Urdea et al., PCT WO92/02526 and Urdea et al., U.S. Patent No. 5,124,246, both incorporated herein by reference. The references describe an example of a sandwich nucleotide hybridization assay.

Alternatively, the Polymerase Chain Reaction (PCR) is another means for detecting small amounts of target nucleic acids, as described in Mullis *et al.*, *Meth. Enzymol.* (1987) 155:335-350; U.S. Patent No. 4,683,195; and U.S. Patent No. 4,683,202, all incorporated herein by reference. Two primer polynucleotides nucleotides hybridize with the target nucleic acids and are used to prime the reaction. The primers may be composed of sequence within or 3' and 5' to the polynucleotides of the Sequence Listing. Alternatively, if the primers are 3' and 5' to these polynucleotides, they need not hybridize to them or the complements. A thermostable polymerase creates copies of target nucleic acids from the primers using the original target nucleic acids as a template. After a large amount of target nucleic acids is generated by the polymerase, it is detected by methods such as Southern blots. When using the Southern blot method, the labeled probe will hybridize to a polynucleotide of the Sequence Listing or complement.

Furthermore, mRNA or cDNA can be detected by traditional blotting techniques described in Sambrook *et al.*, "Molecular Cloning: A Laboratory Manual" (New York, Cold Spring Harbor Laboratory, 1989). mRNA or cDNA generated from mRNA using a polymerase enzyme can be purified and separated using gel electrophoresis. The nucleic acids on the gel are then blotted onto a solid support, such as nitrocellulose. The solid support is exposed to a labeled probe and then washed to remove any unhybridized probe. Next, the duplexes containing the labeled probe are detected. Typically, the probe is labeled with radioactivity.

Mapping

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Polynucleotides of the present invention are used to identify a chromosome on which the corresponding gene resides. Using fluorescence in situ hybridization (FISH) on normal metaphase spreads, comparative genomic hybridization allows total genome assessment of changes in relative copy number of DNA sequences. See Schwartz and Samad, Current Opinions in Biotechnology (1994) 8:70-74; Kallioniemi et al., Seminars in Cancer Biology (1993) 4:41-46; Valdes and Tagle, Methods in Molecular Biology (1997) 68:1, Boultwood, ed., Human Press, Totowa, NJ.

Preparations of human metaphase chromosomes are prepared using standard cytogenetic techniques from human primary tissues or cell lines. Nucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence shown in the Sequence Listing are used to identify the corresponding chromosome. The nucleotide probes are labeled, for example, with a radioactive, fluorescent, biotinylated, or chemiluminescent label, and detected by well known methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations that are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to a polynucleotide-related gene provides a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with non-EST coding sequences.

Polynucleotides are mapped to particular chromosomes using, for example, radiation hybrids or chromosome-specific hybrid panels. See Leach et al., Advances in Genetics, (1995) 33:63-99; Walter et al., Nature Genetics (1994) 7:22-28; Walter and Goodfellow, Trends in Genetics (1992) 9:352. Such mapping can be useful in identifying the function of the polynucleotide-related gene by its proximity to other genes with known function. Function can also be assigned to the related gene when particular syndromes or diseases map to the same chromosome.

Tissue Profiling

The polynucleotides of the present invention can be used to determine the tissue type from which a given sample is derived. For example, a metastatic lesion

is identified by its developmental organ or tissue source by identifying the expression of a particular marker of that organ or tissue. If a polynucleotide is expressed only in a specific tissue type, and a metastatic lesion is found to express that polynucleotide, then the developmental source of the lesion has been identified. Expression of a particular polynucleotide is assayed by detection of either the corresponding mRNA or the protein product. Immunological methods, such as antibody staining, are used to detect a particular protein product. Hybridization methods may be used to detect particular mRNA species, including but not limited to in situ hybridization and Northern blotting.

Use of Polymorphisms

A polynucleotide will be useful in forensics, genetic analysis, mapping, and diagnostic applications if the corresponding region of a gene is polymorphic in the human population. A particular polymorphic form of the polynucleotide may be used to either identify a sample as deriving from a suspect or rule out the possibility that the sample derives from the suspect. Any means for detecting a polymorphism in a gene are used, including but not limited to electrophoresis of protein polymorphic variants, differential sensitivity to restriction enzyme cleavage, and hybridization to an allele-specific probe.

Use of Polynucleotides to Raise Antibodies

Expression products of a polynucleotide, the corresponding mRNA or cDNA, or the corresponding complete gene are prepared and used for raising antibodies for experimental, diagnostic, and therapeutic purposes. The polynucleotide or related cDNA is expressed as described above, and antibodies are prepared. These antibodies are specific to an epitope on the polynucleotide-encoded polypeptide, and can precipitate or bind to the corresponding native protein in a cell or tissue preparation or in a cell-free extract of an in vitro expression system.

Immunogens for raising antibodies are prepared by mixing the polypeptides encoded by the polynucleotide of the present invention with adjuvants. Alternatively, polypeptides are made as fusion proteins to larger immunogenic proteins. Polypeptides are also covalently linked to other larger immunogenic proteins, such as keyhole limpet hemocyanin. Immunogens are typically administered intradermally,

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subcutaneously, or intramuscularly. Immunogens are administered to experimental animals such as rabbits, sheep, and mice, to generate antibodies. Optionally, the animal spleen cells are isolated and fused with myeloma cells to form hybridomas which secrete monoclonal antibodies. Such methods are well known in the art. According to another method known in the art, the polynucleotide is administered directly, such as by intramuscular injection, and expressed in vivo. The expressed protein generates a variety of protein-specific immune responses, including production of antibodies, comparable to administration of the protein.

Preparations of polyclonal and monoclonal antibodies specific for polynucleotide-encoded proteins and polypeptides are made using standard methods known in the art. The antibodies specifically bind to epitopes present in the polypeptides encoded by polynucleotides disclosed in the Sequence Listing. Typically, at least 6, 8, 10, or 12 contiguous amino acids are required to form an epitope. However, epitopes which involve non-contiguous amino acids may require more, for example at least 15, 25, or 50 amino acids. A short sequence of a polynucleotide may then be unsuitable for use as an epitope to raise antibodies for identifying the corresponding novel protein, because of the potential for cross-reactivity with a known protein. However, the antibodies may be useful for other purposes, particularly if they identify common structural features of a known protein and a novel polypeptide encoded by a polynucleotide of the invention.

Antibodies that specifically bind to human polynucleotide-encoded polypeptides should provide a detection signal at least 5-, 10-, or 20-fold higher than a detection signal provided with other proteins when used in Western blots or other immunochemical assays. Preferably, antibodies that specifically bind polypeptides do not detect other proteins in immunochemical assays and can immunoprecipitate EST-encoded proteins from solution. For such immunoassays, any type of samples can be used, including tissue, organs, cells, urine, blood, prostatic fluid or semen.

Of interest are antibodies to the secreted polypeptides encoded by the present polynucleotide sequences, SEQ ID NO:1-339. Antibodies to secreted polypeptides can be used to test body fluids, such as blood, urine, prostatic fluid and semen.

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To test for the presence of serum antibodies to the polypeptide in a human population, human antibodies are purified by methods well known in the art. Preferably, the antibodies are affinity purified by passing antiserum over a column to which a protein, polypeptide, or fusion protein is bound. The bound antibodies can then be eluted from the column, for example using a buffer with a high salt concentration.

In addition to the antibodies discussed above, genetically engineered antibody derivatives are made, such as single chain antibodies or humanized antibodies.

Antibodies to the polypeptides encoded by one or more of SEQ ID NO:1-339 also are contemplated for therapeutic compositions and uses. For example, antibodies directed to membrane-bound polypeptides that are up-regulated in cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations can be constructed. Antibodies can provide a useful therapeutic in inhibiting cell growth or inducing an immune reaction to cancer, tumor, or hyperproliferating cells. Typically, such antibodies are directed the extracellular regions of the membrane-bound polypeptide. The borders of such regions can be determined by identifying the location of the hydrophobic transmembrane fragment(s) in the encoded polypeptides of the present invention.

Exemplary antibodies were prepared using two sequences from clone SL-5: H₂N-CGPRLPSFPCPTHEPSTGQLSK-CONH₂ and H₂N-CKDSQGLSDFKR-NSRTTRRSYKCCONH₂. Using polyclonal antibodies raised against a mixture of these polypeptides, immunohistochemistry was performed on a variety of tumor tissues and corresponding normal tissue. The results are shown in Figure 3, and discussed in the Examples. These polypeptides are useful for detecting a higher level of expression of clone SL-5 in tumor tissues.

25 <u>Use of Polynucleotides to Construct Arrays for Diagnostics</u>

The present polynucleotide sequences and gene products are useful for determining the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations. Specifically, the polynucleotides and encoded polypeptides of the instant invention can be utilized to

determine the occurrence of prostatic disorders, such as BPH or localized prostate cancer.

A number of prostatic disorders exist, including adenocarcinoma, BPH, histologic prostate cancer, prostatic intraepithelial neoplasia, clinical prostate cancer, incidental prostate cancer, and localized prostate cancer. BPH is a common prostatic disorder in men which becomes clinically manifest usually after age fifty. In BPH, hyperplastic growth of prostatic cells in the periurethral glandular tissue in the central zone of the prostate gland cause an enlarged prostate which can compress or elongate the urethra and produce symptoms of urethral obstruction that may progress to urinary retention or to a constellation of symptoms known as prostatism. A host of physical manifestations can accompany prostatic disorders including: impotency, reduced urinary flow, hesitancy in initiating voiding, postvoid dribbling, a sensation of incomplete bladder emptying, and development of bladder or high urinary tract infections.

To determine the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations, the levels of polynucleotides and/or encoded polypeptides of the present invention in a sample are compared to the levels in a normal control of body tissues, cells, organs, or fluids. The normal control can include a pool of cells from a particular organ or tissue or tissues and/or cells from throughout the body. Either the immunoassays described above or the nucleic acid assays described below can be used for such measurements.

Any observed difference between the sample and normal control can indicate the occurrence of disease or disorder. Typically, if the levels of the polynucleotides and the encoded polypeptides of the present invention are higher than those found in the normal control, the results indicate the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations.

In addition, the present polynucleotides can be useful to diagnose the severity as well as the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations, including prostatic disorders. For example, the greater the difference observed in the sample versus the

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normal control of the present polynucleotides or encoded polypeptides, the greater the severity of the disorder, in particular, when higher levels as compared to a normal control are observed.

The present polynucleotides, as shown in SEQ ID NO:1-339, were expressed at higher levels in a prostate cancer cell line versus a normal prostate epithelial cell line.

Polynucleotide arrays provide a high throughput technique that can assay a large number of polynucleotide sequences in a sample. This technology can be used as a diagnostic and as a tool to test for differential expression to determine function of an encoded protein.

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To create arrays, polynucleotide probes are spotted onto a substrate in a two-dimensional matrix or array. Samples of polynucleotides can be labeled and then hybridized to the probes. Double stranded polynucleotides, comprising the labeled sample polynucleotides bound to probe polynucleotides, can be detected once the unbound portion of the sample is washed away.

The probe polynucleotides can be spotted on substrates including glass, nitrocellulose, etc. The probes can be bound to the substrate by either covalent bonds or by non-specific interactions, such as hydrophobic interactions. The sample polynucleotides can be labeled using radioactive labels, fluorophors, etc.

Techniques for constructing arrays and methods of using these arrays are described in EP No. 0 799 897; PCT No. WO 97/29212; PCT No. WO 97/27317; EP No. 0 785 280; PCT No. WO 97/02357; U.S. Pat. No. 5,593,839; U.S. Pat. No. 5,578,832; EP No. 0 728 520; U.S. Pat. No. 5,599,695; EP No. 0 721 016; U.S. Pat. No. 5,556,752; PCT No. WO 95/22058; and U.S. Pat. No. 5,631,734.

Further, arrays can be used to examine differential expression of genes and can be used to determine gene function. For example, arrays of the instant polynucleotide sequences can be used to determine if any of the EST sequences are differentially expressed between normal cells and cancer cells, for example. High expression of a particular message in a cancer cell, which is not observed in a corresponding normal cell, can indicate a cancer specific protein.

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Differential Expression

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The present invention also provides a method to identify abnormal or diseased tissue in a human. For polynucleotides corresponding to profiles of protein families as described above, the choice of tissue may be dictated by the putative biological function. The expression of a gene corresponding to a specific polynucleotide is compared between a first tissue that is suspected of being diseased and a second, normal tissue of the human. The normal tissue is any tissue of the human, especially those that express the polynucleotide-related gene including, but not limited to, brain, thymus, testis, heart, prostate, placenta, spleen, small intestine, skeletal muscle, pancreas, and the mucosal lining of the colon.

The polynucleotide-related genes in the two tissues are compared by any means known in the art. For example, the two genes are sequenced, and the sequence of the gene in the tissue suspected of being diseased is compared with the gene sequence in the normal tissue. The polynucleotide-related genes, or portions thereof, in the two tissues are amplified, for example using nucleotide primers based on the nucleotide sequence shown in the Sequence Listing, using the polymerase chain reaction. The amplified genes or portions of genes are hybridized to nucleotide probes selected from the same nucleotide sequence shown in the Sequence Listing. A difference in the nucleotide sequence of the polynucleotide-related gene in the tissue suspected of being diseased compared with the normal nucleotide sequence suggests a role of the polynucleotide-encoded proteins in the disease, and provides a lead for preparing a therapeutic agent. The nucleotide probes are labeled by a variety of methods, such as radiolabeling, biotinylation, or labeling with fluorescent or chemiluminescent tags, and detected by standard methods known in the art.

Alternatively, polynucleotide-related mRNA in the two tissues is compared. PolyA+RNA is isolated from the two tissues as is known in the art. For example, one of skill in the art can readily determine differences in the size or amount of polynucleotide-related mRNA transcripts between the two tissues using Northern blots and nucleotide probes selected from the nucleotide sequence shown in the Sequence Listing. Increased or decreased expression of an polynucleotide-related mRNA in a tissue sample suspected of being diseased, compared with the expression of

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the same polynucleotide-related mRNA in a normal tissue, suggests that the expressed protein has a role in the disease, and also provides a lead for preparing a therapeutic agent.

Any method for analyzing proteins is used to compare two polynucleotide-encoded proteins from matched samples. The sizes of the proteins in the two tissues are compared, for example, using antibodies of the present invention to detect polynucleotide-encoded proteins in Western blots of protein extracts from the two tissues. Other changes, such as expression levels and subcellular localization, can also be detected immunologically, using antibodies to the corresponding protein. A higher or lower level of polynucleotide-encoded protein expression in a tissue suspected of being diseased, compared with the same polynucleotide-encoded protein expression level in a normal tissue, is indicative that the expressed protein has a role in the disease, and provides another lead for preparing a therapeutic agent.

Similarly, comparison of polynucleotide gene sequences or of polynucleotide gene expression products, e.g., mRNA and protein, between a human tissue that is suspected of being diseased and a normal tissue of a human, are used to follow disease progression or remission in the human. Such comparisons of polynucleotide-related genes, mRNA, or protein are made as described above.

For example, increased or decreased expression of the polynucleotiderelated gene in the tissue suspected of being neoplastic can indicate the presence of neoplastic cells in the tissue. The degree of increased expression of the polynucleotide gene in the neoplastic tissue relative to expression of the gene in normal tissue, or differences in the amount of increased expression of the polynucleotide gene in the neoplastic tissue over time, is used to assess the progression of the neoplasia in that tissue or to monitor the response of the neoplastic tissue to a therapeutic protocol over time. The expression pattern of any two cell types can be compared, such as low and high metastatic tumor cell lines, or cells from tissue which have and have not been exposed to a therapeutic agent.

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Screening for Peptide Analogs and Antagonists

Polypeptides encoded by the instant polynucleotides and corresponding full length genes can be used to screen peptide libraries to identify binding partners, such as receptors, from among the encoded polypeptides.

Such binding partners can be useful in treating cancer, tumor progression, hyperproliferative cell growth, and/or accompanying biological or physical manifestations. For example, peptides or other compounds that are capable of binding or interacting with membrane-bound polypeptides encoded by one or more of SEQ ID NO:1-339, can be useful as a therapeutic. Also, peptides or other compounds capable of altering the conformation of any of the encoded polypeptides by one or more of SEQ ID NO:1-339 can inhibit biological activity and be useful as a therapeutic.

A library of peptides may be synthesized following the methods disclosed in U.S. Pat. No. 5,010,175, and in PCT WO91/17823.

Peptide agonists or antagonists are screened using any available method, such as signal transduction, antibody binding, receptor binding, mitogenic assays, chemotaxis assays, etc. The methods described herein are presently preferred. The assay conditions ideally should resemble the conditions under which the native activity is exhibited *in vivo*, that is, under physiologic pH, temperature, and ionic strength. Suitable agonists or antagonists will exhibit strong inhibition or enhancement of the native activity at concentrations that do not cause toxic side effects in the subject. Agonists or antagonists that compete for binding to the native polypeptide may require concentrations equal to or greater than the native concentration, while inhibitors capable of binding irreversibly to the polypeptide may be added in concentrations on the order of the native concentration.

The end results of such screening and experimentation will be at least one novel polypeptide binding partner, such as a receptor, encoded by a cDNA polynucleotide or gene of the invention, and at least one peptide agonist or antagonist of the novel binding partner. Such agonists and antagonists can be used to modulate, enhance, or inhibit receptor function in cells to which the receptor is native, or in cells that possess the receptor as a result of genetic engineering. Further, if the novel receptor shares biologically important characteristics with a known receptor,

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information about agonist/antagonist binding may help in developing improved agonists/antagonists of the known receptor.

Therapeutics, whether polynucleotide or polypeptide or small molecule, can be tested, for example, in the mouse tumor assay described in Pei *et al.*, <u>Mol. Endo.</u> 11: 433-441 (1997).

Other models for testing polynucleotides, polypeptides, antibodies, or small molecules useful for treatment include: animal models and cell lines disclosed in Bosland, *Encyclopedia of Cancer*, Volume II, pages 1283 to 1296 (1997) by Academic Press. Other useful cell lines are described in Brothman, *Encyclopedia of Cancer*, Volume II, pages 1303 to 1313 (1997) by Academic Press

Pharmaceutical Compositions and Therapeutic Uses

Pharmaceutical compositions can comprise polypeptides, antibodies, or polynucleotides of the claimed invention. The pharmaceutical compositions will comprise a therapeutically effective amount of either polypeptides, antibodies, or polynucleotides of the claimed invention.

The term "therapeutically effective amount" as used herein refers to an amount of a therapeutic agent to treat, ameliorate, or prevent a desired disease or condition, or to exhibit a detectable therapeutic or preventative effect. The effect can be detected by, for example, chemical markers or antigen levels. Therapeutic effects also include reduction in physical symptoms, such as decreased body temperature. The precise effective amount for a subject will depend upon the subject's size and health, the nature and extent of the condition, and the therapeutics or combination of therapeutics selected for administration. Thus, it is not useful to specify an exact effective amount in advance. However, the effective amount for a given situation can be determined by routine experimentation and is within the judgment of the clinician. Specifically, the compositions of the present invention can be used to treat, ameliorate, modulate, or prevent cancer, tumor progression, hyperproliferative cell growth and/or accompanying biological or physical manifestations, including prostatic disorders.

For purposes of the present invention, an effective dose will be from about 0.01 mg/kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg of the polynucleotide, polypeptide or antibody compositions in the individual to which it is administered.

A pharmaceutical composition can also contain a pharmaceutically acceptable carrier. The term "pharmaceutically acceptable carrier" refers to a carrier for administration of a therapeutic agent, such as antibodies or a polypeptide, genes, and other therapeutic agents. The term refers to any pharmaceutical carrier that does not itself induce the production of antibodies harmful to the individual receiving the composition, and which may be administered without undue toxicity. Suitable carriers may be large, slowly metabolized macromolecules such as proteins, polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, and inactive virus particles. Such carriers are well known to those of ordinary skill in the art.

Pharmaceutically acceptable salts can be used therein, for example, mineral acid salts such as hydrochlorides, hydrobromides, phosphates, sulfates, and the like; and the salts of organic acids such as acetates, propionates, malonates, benzoates, and the like. A thorough discussion of pharmaceutically acceptable excipients is available in *Remington's Pharmaceutical Sciences* (Mack Pub. Co., N.J. 1991).

Pharmaceutically acceptable carriers in therapeutic compositions may contain liquids such as water, saline, glycerol and ethanol. Additionally, auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, may be present in such vehicles. Typically, the therapeutic compositions are prepared as injectables, either as liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection may also be prepared. Liposomes are included within the definition of a pharmaceutically acceptable carrier.

Delivery Methods

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Once formulated, the polynucleotide compositions of the invention can be (1) administered directly to the subject; (2) delivered ex vivo, to cells derived from the subject; or (3) delivered in vitro for expression of recombinant proteins.

Direct delivery of the compositions will generally be accomplished by injection, either subcutaneously, intraperitoneally, intravenously or intramuscularly, or delivered to the interstitial space of a tissue. The compositions can also be administered into a tumor or lesion. Other modes of administration include oral and pulmonary administration, suppositories, and transdermal applications, needles, and gene guns or hyposprays. Dosage treatment may be a single dose schedule or a multiple dose schedule.

Methods for the ex vivo delivery and reimplantation of transformed cells into a subject are known in the art and described in e.g., International Publication No. WO 93/14778. Examples of cells useful in ex vivo applications include, for example, stem cells, particularly hematopoetic, lymph cells, macrophages, dendritic cells, or tumor cells.

Generally, delivery of nucleic acids for both ex vivo and in vitro applications can be accomplished by, for example, dextran-mediated transfection, calcium phosphate precipitation, polybrene mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct microinjection of the DNA into nuclei, all well known in the art.

If a polynucleotide-related gene correlates with a proliferative disorder, such as neoplasia, dysplasia, and hyperplasia, the disorder may be amenable to treatment by administration of a therapeutic agent based on the polynucleotide or corresponding polypeptide.

Preparation of antisense polypeptides is discussed above. Neoplasias that are treated with the antisense composition include, but are not limited to, cervical cancers, melanomas, colorectal adenocarcinomas, Wilms' tumor, retinoblastoma, sarcomas, myosarcomas, lung carcinomas, leukemias, such as chronic myelogenous leukemia, promyelocytic leukemia, monocytic leukemia, and myeloid leukemia, and lymphomas, such as histiocytic lymphoma. Proliferative disorders that are treated with the therapeutic composition include disorders such as anhydric hereditary ectodermal dysplasia, congenital alveolar dysplasia, epithelial dysplasia of the cervix, fibrous dysplasia of bone, and mammary dysplasia. Hyperplasias, for example, endometrial, adrenal, breast, prostate, or thyroid hyperplasias or pseudoepitheliomatous hyperplasia

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of the skin, are treated with antisense therapeutic compositions. Even in disorders in which mutations in the corresponding gene are not implicated, downregulation or inhibition of gene expression can have therapeutic application. For example, decreasing gene expression can help to suppress tumors in which enhanced expression of the gene is implicated.

Both the dose of the antisense composition and the means of administration are determined based on the specific qualities of the therapeutic composition, the condition, age, and weight of the patient, the progression of the disease, and other relevant factors. Administration of the therapeutic antisense agents of the invention includes local or systemic administration, including injection, oral administration, particle gun or catheterized administration, and topical administration. Preferably, the therapeutic antisense composition contains an expression construct comprising a promoter and a polynucleotide segment of at least 12, 22, 25, 30, or 35 contiguous nucleotides of the antisense strand. Within the expression construct, the polynucleotide segment is located downstream from the promoter, and transcription of the polynucleotide segment initiates at the promoter.

Various methods are used to administer the therapeutic composition directly to a specific site in the body. For example, a small metastatic lesion is located and the therapeutic composition injected several times in several different locations within the body of tumor. Alternatively, arteries which serve a tumor are identified, and the therapeutic composition injected into such an artery, in order to deliver the composition directly into the tumor. A tumor that has a necrotic center is aspirated and the composition injected directly into the now empty center of the tumor. The antisense composition is directly administered to the surface of the tumor, for example, by topical application of the composition. X-ray imaging is used to assist in certain of the above delivery methods.

Receptor-mediated targeted delivery of therapeutic compositions containing an antisense polynucleotide, subgenomic polynucleotides, or antibodies to specific tissues is also used. Receptor-mediated DNA delivery techniques are described in, for example, Findeis et al., Trends in Biotechnol. (1993) 11:202-205; Chiou et al., (1994) Gene Therapeutics: Methods And Applications Of Direct Gene Transfer (J.A.

Wolff, ed.); Wu & Wu, J. Biol. Chem. (1988) 263:621-24; Wu et al., J. Biol. Chem. (1994) 269:542-46; Zenke et al., Proc. Natl. Acad. Sci. (USA) (1990) 87:3655-59; Wu et al., J. Biol. Chem. (1991) 266:339-42. Preferably, receptor-mediated targeted delivery of therapeutic compositions containing antibodies of the invention is used to deliver the antibodies to specific tissue.

Therapeutic compositions containing antisense subgenomic polynucleotides are administered in a range of about 100 ng to about 200 mg of polynucleotides for local administration in a gene therapy protocol. Concentration ranges of about 500 ng to about 50 mg, about 1 µg to about 2 mg, about 5 µg to about 500 µg, and about 20 µg to about 100 µg of polynucleotides can also be used during a gene therapy protocol. Factors such as method of action and efficacy of transformation and expression are considerations which will affect the dosage required for ultimate efficacy of the antisense subgenomic polynucleotides. Where greater expression is desired over a larger area of tissue, larger amounts of EST antisense subgenomic polynucleotides or the same amounts readministered in a successive protocol of administrations, or several administrations to different adjacent or close tissue portions of, for example, a tumor site, may be required to effect a positive therapeutic outcome. In all cases, routine experimentation in clinical trials will determine specific ranges for optimal therapeutic effect. A more complete description of gene therapy vectors, especially retroviral vectors, is contained in U.S. Serial No. 08/869,309, which is expressly incorporated herein, and in section G below.

For genes encoding polypeptides or proteins with anti-inflammatory activity, suitable use, doses, and administration are described in U.S. Patent No. 5,654,173, incorporated herein by reference. Therapeutic agents also include antibodies to proteins and polypeptides, as described in U.S. Patent No. 5,654,173.

Gene Therapy

The therapeutic polynucleotides and polypeptides of the present invention may be utilized in gene delivery vehicles. The gene delivery vehicle may be of viral or non-viral origin (see generally, Jolly, Cancer Gene Therapy (1994) 1:51-64; Kimura, Human Gene Therapy (1994) 5:845-852; Connelly, Human Gene Therapy

(1995) 1:185-193; and Kaplitt, Nature Genetics (1994) 6:148-153). Gene therapy vehicles for delivery of constructs including a coding sequence of a therapeutic of the invention can be administered either locally or systemically. These constructs can utilize viral or non-viral vector approaches. Expression of such coding sequences can be induced using endogenous mammalian or heterologous promoters. Expression of the coding sequence can be either constitutive or regulated.

The present invention can employ recombinant retroviruses which are constructed to carry or express a selected nucleic acid molecule of interest. Retrovirus vectors that can be employed include those described in EP 0 415 731; WO 90/07936; WO 94/03622; WO 93/25698; WO 93/25234; U.S. Patent No. 5, 219,740; WO 93/11230; WO 93/10218; Vile and Hart, Cancer Res. (1993) 53:3860-3864; Vile and Hart, Cancer Res. (1993) 53:962-967; Ram et al., Cancer Res. (1993) 53:83-88; Takamiya et al., J. Neurosci. Res. (1992) 33:493-503; Baba et al., J. Neurosurg. (1993) 79:729-735; U.S. Patent no. 4,777,127; GB Patent No. 2,200,651; and EP 0 345 242. Preferred recombinant retroviruses include those described in WO 91/02805.

Packaging cell lines suitable for use with the above-described retroviral vector constructs may be readily prepared (see PCT publications WO 95/30763 and WO 92/05266), and used to create producer cell lines (also termed vector cell lines) for the production of recombinant vector particles. Within particularly preferred embodiments of the invention, packaging cell lines are made from human (such as HT1080 cells) or mink parent cell lines, thereby allowing production of recombinant retroviruses that can survive inactivation in human serum.

The present invention also employs alphavirus-based vectors that can function as gene delivery vehicles. Such vectors can be constructed from a wide variety of alphaviruses, including, for example, Sindbis virus vectors, Semliki forest virus (ATCC VR-67; ATCC VR-1247), Ross River virus (ATCC VR-373; ATCC VR-1246) and Venezuelan equine encephalitis virus (ATCC VR-923; ATCC VR-1250; ATCC VR 1249; ATCC VR-532). Representative examples of such vector systems include those described in U.S. Patent Nos. 5,091,309; 5,217,879; and 5,185,440; and PCT Publication Nos. WO 92/10578; WO 94/21792; WO 95/27069; WO 95/27044; and WO 95/07994.

Gene delivery vehicles of the present invention can also employ parvovirus such as adeno-associated virus (AAV) vectors. Representative examples include the AAV vectors disclosed by Srivastava in WO 93/09239, Samulski et al., *J. Vir.* (1989) 63:3822-3828; Mendelson et al., *Virol.* (1988) 166:154-165; and Flotte et al., *PNAS* (1993) 90:10613-10617.

Representative examples of adenoviral vectors include those described by Berkner, Biotechniques (1988) 6:616-627; Rosenfeld et al., Science (1991) 252:431-434; WO 93/19191; Kolls et al., PNAS (1994) 91:215-219; Kass-Eisler et al., PNAS (1993) 90:11498-11502; Guzman et al., Circulation (1993) 88:2838-2848; Guzman et al., Cir. Res. (1993) 73:1202-1207; Zabner et al., Cell (1993) 75:207-216; Li et al., Hum. Gene Ther. (1993) 4:403-409; Cailaud et al., Eur. J. Neurosci. (1993) 5:1287-1291; Vincent et al., Nat. Genet. (1993) 5:130-134; Jaffe et al., Nat. Genet. (1992) 1:372-378; and Levrero et al., Gene (1991) 101:195-202. Exemplary adenoviral gene therapy vectors employable in this invention also include those described in WO 94/12649, WO 93/03769; WO 93/19191; WO 94/28938; WO 95/11984 and WO 95/00655. Administration of DNA linked to killed adenovirus as described in Curiel, Hum. Gene Ther. (1992) 3:147-154 may be employed.

Other gene delivery vehicles and methods may be employed, including polycationic condensed DNA linked or unlinked to killed adenovirus alone, for example Curiel, *Hum. Gene Ther.* (1992) 3:147-154; ligand linked DNA, for example see Wu, *J. Biol. Chem.* (1989) 264:16985-16987; eukaryotic cell delivery vehicles cells, for example see U.S. Serial No. 08/240,030, filed May 9, 1994, and U.S. Serial No. 08/404,796; deposition of photopolymerized hydrogel materials; hand-held gene transfer particle gun, as described in U.S. Patent No. 5,149,655; ionizing radiation as described in U.S. Patent No. 5,206,152 and in WO92/11033; nucleic charge neutralization or fusion with cell membranes. Additional approaches are described in Philip, *Mol. Cell Biol.* (1994) 14:2411-2418, and in Woffendin, *Proc. Natl. Acad. Sci.* (1994) 91:1581-1585.

Naked DNA may also be employed. Exemplary naked DNA introduction methods are described in WO 90/11092 and U.S. Patent No. 5,580,859.

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Further non-viral delivery suitable for use includes mechanical delivery systems such as the approach described in Woffendin *et al.*, *Proc. Natl. Acad. Sci. USA* (1994) 91(24):11581-11585.

Computer-Related Embodiments

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In general, a library of polynucleotides is a collection of sequence information, which information is provided in either biochemical form (e.g., as a collection of polynucleotide molecules), or in electronic form (e.g., as a collection of polynucleotide sequences stored in a computer-readable form, as in a computer system and/or as part of a computer program). The sequence information of the polynucleotides can be used in a variety of ways, e.g., as a resource for gene discovery, as a representation of sequences expressed in a selected cell type (e.g., cell type markers), and/or as markers of a given disease or disease state. In general, a disease marker is a representation of a gene product that is present in all cells affected by disease either at an increased or decreased level relative to a normal cell (e.g., a cell of the same or similar type that is not substantially affected by disease).

The nucleotide sequence information of the library can be embodied in any suitable form, e.g., electronic or biochemical forms. For example, a library of sequence information embodied in electronic form comprises an accessible computer data file (or, in biochemical form, a collection of nucleic acid molecules) that contains the representative nucleotide sequences of genes that are differentially expressed (e.g., overexpressed or underexpressed) as between, for example, a cancerous cell and a normal cell. Biochemical embodiments of the library include a collection of nucleic acids that have the sequences of the genes in the library, where the nucleic acids can correspond to the entire gene in the library or to a fragment thereof, as described in greater detail below.

The polynucleotide libraries of the subject invention generally comprise sequence information of a plurality of polynucleotide sequences, where at least one of the polynucleotides has a sequence of any of SEQ ID NOs:1-339. By plurality is meant at least 2, usually at least 3 and can include up to all of SEQ ID NOs:1-339. The length and number of polynucleotides in the library will vary with the nature of the library,

e.g., if the library is an oligonucleotide array, a cDNA array, a computer database of the sequence information, etc.

Where the library is an electronic library, the nucleic acid sequence information can be present in a variety of media. "Media" refers to a manufacture. other than an isolated nucleic acid molecule, that contains the sequence information of the present invention. Such a manufacture provides the genome sequence or a subset thereof in a form that can be examined by means not directly applicable to the sequence as it exists in a nucleic acid. For example, the nucleotide sequence of the present invention, e.g., the nucleic acid sequences of any of the polynucleotides of SEO ID NOs:1-339, can be recorded on computer readable media, e.g., any medium that can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as a floppy disc, a hard disc storage medium, and a magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. One of skill in the art can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising a recording of the present sequence information. "Recorded" refers to a process for storing information on computer readable medium, using any such methods as known in the art. Any convenient data storage structure can be chosen, based on the means used to access the stored information. A variety of data processor programs and formats can be used for storage, e.g., word processing text file, database format, etc. In addition to the sequence information, electronic versions of the libraries of the invention can be provided in conjunction or connection with other computer-readable information and/or other types of computer-readable files (e.g., searchable files, executable files, etc, including, but not limited to, for example, search program software, etc.).

By providing the nucleotide sequence in computer readable form, the information can be accessed for a variety of purposes. Computer software to access sequence information is publicly available. For example, the BLAST (Altschul et al., supra.) and BLAZE (Brutlag et al. Comp. Chem. (1993) 17:203) search algorithms on a Sybase system can be used to identify open reading frames (ORFs) within the genome that contain homology to ORFs from other organisms.

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As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based system are suitable for use in the present invention. The data storage means can comprise any manufacture comprising a recording of the present sequence information as described above, or a memory access means that can access such a manufacture.

"Search means" refers to one or more programs implemented on the computer-based system, to compare a target sequence or target structural motif, or expression levels of a polynucleotide in a sample, with the stored sequence information. Search means can be used to identify fragments or regions of the genome that match a particular target sequence or target motif. A variety of known algorithms are publicly known and commercially available, e.g., MacPattern (EMBL), BLASTN and BLASTX (NCBI). A "target sequence" can be any polynucleotide or amino acid sequence of six or more contiguous nucleotides or two or more amino acids, preferably from about 10 to 100 amino acids or from about 30 to 300 nt. A variety of comparing means can be used to accomplish comparison of sequence information from a sample (e.g., to analyze target sequences, target motifs, or relative expression levels) with the data storage means. A skilled artisan can readily recognize that any one of the publicly available homology search programs can be used as the search means for the computer based systems of the present invention to accomplish comparison of target sequences and motifs. Computer programs to analyze expression levels in a sample and in controls are also known in the art.

A "target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequence(s) are chosen based on a three-dimensional configuration that is formed upon the folding of the target motif, or on consensus sequences of regulatory or active sites. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzyme active sites and signal sequences. Nucleic acid target motifs include, but are

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not limited to, hairpin structures, promoter sequences and other expression elements such as binding sites for transcription factors.

A variety of structural formats for the input and output means can be used to input and output the information in the computer-based systems of the present invention. One format for an output means ranks the relative expression levels of different polynucleotides. Such presentation provides a skilled artisan with a ranking of relative expression levels to determine a gene expression profile..

As discussed above, the "library" of the invention also encompasses biochemical libraries of the polynucleotides of SEQ ID NOs:1-339, e.g., collections of nucleic acids representing the provided polynucleotides. The biochemical libraries can take a variety of forms, e.g., a solution of cDNAs, a pattern of probe nucleic acids stably associated with a surface of a solid support (i.e., an array) and the like. Of particular interest are nucleic acid arrays in which one or more of SEQ ID NOs:1-339 is represented on the array. By array is meant a an article of manufacture that has at least a substrate with at least two distinct nucleic acid targets on one of its surfaces, where the number of distinct nucleic acids can be considerably higher, typically being at least 10 nt, usually at least 20 nt and often at least 25 nt. A variety of different array formats have been developed and are known to those of skill in the art. The arrays of the subject invention find use in a variety of applications, including gene expression analysis, drug screening, mutation analysis and the like, as disclosed in the above-listed exemplary patent documents.

In addition to the above nucleic acid libraries, analogous libraries of polypeptides are also provided, where the where the polypeptides of the library will represent at least a portion of the polypeptides encoded by SEQ ID NOs:1-339.

The present invention will now be illustrated by reference to the following examples which set forth particularly advantageous embodiments. However, it should be noted that these embodiments are illustrative and are not to be construed as restricting the invention in any way.

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EXAMPLES

EXAMPLE 1

ISOLATION OF THE POLYNUCLEOTIDES

cDNA libraries were prepared from PrEC, normal human prostate epithelial cells, and LNCaP, a cell line derived from human lymph node metastasized prostate cancer. PrEC cells are available from Clonetics, San Diego, California, U.S.A. LNCaP cells are available from the ATCC, Manassas, Virginia, U.S.A.

Using a PCR technique and reagents available from Clontech, Palo Alto, California, USA (CLONTECH PCR-SelectTM), mRNA up-regulated in LNCaP was captured and amplified. The captured polynucleotide inserts were inserted in the pCR2.1 vector, available from Invitrogen, Carlsbad, California, U.S.A. The vectors with the inserts were transformed into *E. coli* cells.

EXAMPLE 2

CONFIRMATION OF DIFFERENTIAL DISPLAY

Ten clones were chosen at random, and up-regulation of the sequences of these clone inserts in LNCaP versus PrEC cells was confirmed by Northern blot. Dot blots were performed on 168 clones and up-regulation was confirmed.

Further, sequencing of the clones showed that prostate specific antigen (PSA) and prostate specific membrane antigen (PSMA) sequences were isolated by the process described in Example 1. A good correlation between increased serum PSA levels and prostate tumors has been observed. PSMA, a cell surface antigen, is another observed marker for prostate cancer. See Bosland, Encyclopedia of Cancer, Volume II, pages 1283-1296 (1997), Academic Press. Thus, the data confirm that up-regulated mRNA characteristic of gene expression in prostate cancer was cloned by the method of Example 1.

EXAMPLE 3

POLYNUCLEOTIDE SEQUENCES

The sequence results are shown in SEQ ID NO:1-339. For the sequencing experiments, each clone was named SL-1 to SL-209. Inserts from some of the clones were sequenced more than once. Each sequence was designated a unique combination of two names. This unique combination is shown in Table 1 in columns 2 and 3, denoted as "Sequence Name" and "Other Seq Name."

Table 1 indicates all the sequences that correspond to each clone. Thus, all the sequences corresponding to clone SL-3, for example, are grouped together in Table 1.

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Clones also were assigned cluster numbers. See column 4 of Table 1. Clones with the same cluster number generally comprise sequence derived from the same mRNA transcripts.

The last column of Table 1 indicates the nearest neighbor as determined by an alignment to sequences in a publicly available database.

A consensus for the sequence of each clone can be constructed by aligning the corresponding sequences or reverse complements thereof. Table 1 lists the names of all the sequences that correspond to each clone, and Table 2 shows the specific sequence that corresponds to each unique combination of Sequence Name and/or "Other Seq. Name."

The entire insert of some clones may not be represented by the sequences presented in Table 2. For example, the 5' and 3' ends of a clone insert may have been sequenced, but the sequences do not overlap. Additional sequence corresponding to the clone insert can be isolated and determined by constructing probes or primers from the sequences presented in Table 2 and a library of mRNA or cDNA from a prostate cell or prostate cancer cell line using the methods described above.

EXAMPLE 4

RESULTS OF PUBLIC DATABASE SEARCH

Both the nucleotide sequence and translations of masked sequences shown in the Sequence Listing were aligned with individual sequences that were publicly available. Similarity with individual sequences is used to determine the activity of the polypeptides encoded by genes corresponding to the sequences referred to in Table 2.

The sequences in SEQ ID NO:1-333 first were masked to remove the pCR2.1 vector sequences. Masking was performed by aligning the pCR2.1 sequences with each of SEQ ID NO:1-333 using the BLASTN program. Any sequence that produced an alignment with a score of less that 0.1 was masked.

A BLASTN vs. Genbank search was performed using the masked sequences with search parameters of greater than 99% overlap, 99% identity, and a p value of less than 1 x 10⁻⁴⁰ and this resulted in discard of sequences. Sequences from this search also were discarded if the inclusive parameters were met, but the sequence was ribosomal or vector-derived.

The resulting sequences from the previous search were classified into three groups (1, 2 and 3 below) and searched in a BLASTX vs. NRP (non-redundant proteins) database search: (1) unknown (no hits in the Genbank search), (2) weak similarity (greater than 45% identity and p value of less than 1 x 10⁻⁵), and (3) high similarity (greater than 60% overlap, greater than 80% identity, and p value less than 1 x 10⁻⁵). This search resulted in discard of sequences as having greater than 99% overlap, greater than 99% identity, and p value of less than 1 x 10⁻⁴⁰.

The remaining sequences were classified as unknown (no hits), weak similarity, and high similarity (parameters as above). Two searches were performed on this set of sequences. First, a BLAST vs. EST database search resulted in discard of sequences with greater than 99% overlap, greater than 99% similarity and a p value of less than 1 x 10⁻⁴⁰; sequences with a p value of less than 1 x 10⁻⁶⁵ when compared to a database sequence of human origin were also excluded. Second, a BLASTN vs. Patent

GeneSeq database resulted in discard of sequences with greater than 99% identity; p value less than 1×10^{-40} ; greater than 99% overlap.

The masked sequences were translated in all six reading frames to determine the best alignment with the individual sequences. These amino acid sequences and nucleotide sequences are referred, generally, as query sequences, which are aligned with the individual sequences.

Query and individual sequences were aligned using the BLAST programs, available over the world wide web.

Table 2 shows the results of the alignments. Table 2 refers to each sequence by its Sequence Name and/or "Other Seq. Name" and includes the accession numbers and descriptions of nearest neighbors from the Genbank and Non-Redundant Protein searches.

The activity of the polypeptide encoded by the sequences referred to in Table 2 is expected to be the same or similar to the nearest neighbor reported in Table 2. The accession number of the nearest neighbor is reported, providing a reference to the activities exhibited by the nearest neighbor. The search program and database used for the alignment also are indicated as well as a calculation of the p value.

Full length sequences or fragments of the polynucleotide sequences of the nearest neighbors can be used as probes and primers to identify and isolate the full length sequence corresponding to sequence referred to in Table 2. Although full length sequences can be obtained from the cell lines described above, the nearest neighbors can indicate a tissue or cell type to be used to construct a library for the full-length sequences of those referred to in Table 2.

The sequences referred to in Table 2 and the translations thereof may be
human homologs of known genes of other species or novel allelic variants of known
human genes. In such cases, these new human sequences may be suitable as
diagnostics, prognostics, or therapeutics. As diagnostics, the human sequences exhibit
greater specificity in detecting and differentiating human cell lines and types than
homologs of other species. The human polypeptides are less likely to be immunogenic
when administered to humans than homologs from other species. Further, on

administration to humans, the encoded polypeptides can show greater specificity or can be better regulated by other human proteins than are homologs from other species.

In the preferred embodiments of the invention, the sequences shown in SEQ ID NO:1-339 consisting of the unmasked regions should be considered as the source of probes and primers, as these sequences are most representative of the distinguishing portions of these polynucleotides.

Generally, the masking itself does not influence the search results as shown in Table 2, except to eliminate multiple "hits" based on similarity to repetitive regions common to more than one polypeptide.

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EXAMPLE 5

ANALYSIS OF CLONES SL-5, SL-9, SL-68, AND SL-173

Clone SL-5 (SEQ ID NO:14 and 334)

By Northern Blot, a 4.1 kb band was observed in expressed in normal prostate, testis, and lymphoblasic leukemia. It was also expressed in the cell lines LNCaP, and MDA PCa 2A and 2B (metastatic prostate cells into bone, androgen sensitive). Additional sequence corresponding to SEQ ID NO:14 is disclosed in SEQ ID NO:334.

Expression of SL-5 was investigated in normal and tumor tissues using immunohistochemistry. Antibody was prepared using two sequences from clone SL-5:

H₂N-CGPRLPSFPCPTHEPSTGQLSK-CONH₂ and H₂N-CKDSQGLSDFKRNSRTTR-RSYKCCONH₂. Using polyclonal antibodies raised against a mixture of these polypeptides, immunohistochemistry (IHC) was performed on a variety of tumor tissues and corresponding normal tissue. The methods used were those described for the Manual IHC Protocol using BioGenex Reagents and Zymed AEC Solution, as known in the art. As shown in Figure 3, SL-5 was detected in the following tumor tissue: adrenal, ovary, breast, colon, prostate, uterus, cervix, kidney, pancreas, liver, stomach, lymphoma, seminoma, thyroid, melanoma, basal cell carcinoma, and other tumor tissues. Where comparative normal tissue was available, expression in the

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corresponding normal tissue was lower than in the tumor tissue. Thus, SL-5 is a useful marker for cancer tissue including prostate.

Clone SL-9 (SEQ ID NO:18)

By Northern Blot, sequences from SL-9 were specifically expressed in normal spleen and normal peripheral blood leukocyte. Expression of the SL-9 sequences was observed also in promyelocytic leukemia HL-60, chronic mylogenous leukemia K-562, lymphoblastic leukemia MOLT-4, Burkitt's lymphoma, and Raji cancer cell lines by Northern Blot.

Clone SL-173 (SEQ ID NO:153 and 154)

By Northern Blot, SL173 was found in every cancer cell line tested. Sequence from SL-173 has similarity to and may be a human homologue of the rat tumor transforming gene, which was found in the pituitary and described in Pei et al., Mol. Endo. 11: 433-441 (1997) and Pei, J. Biol. Chem. 273(9): 5219-5225 (1998). When the rat tumor transforming gene was injected in NIH3T3cells, the cells became transformed and were able to form a tumor when injected into mice. (Pei et al., Mol. Endo. supra).

Clone SL-68 (SEQ ID NO:218 and 219)

Two transcripts, 2.6kb and 4.3kb, were observed in normal spleen, thymus and peripheral blood leukocytes, as well as in promyelocytic leukemia, chronic myelogenous leukemia and lymphoblastic leukemia. The 4.3kb transcript was seen in normal testis, colon, Hela cell S3, colorectal adenocarcinoma and melanoma. The 2.6kb band was found in the following prostate cell lines: PC-3 (metastatic to bone, androgen insensitive); DU-145 (metastatic to brain, androgen insensitive); FFpz (primary cells derived from normal prostate epithelium); Ffca (primary cells derived from Gleason Grade 3 prostate cancer epithelium); and WO-CA (primary cells derived from Gleason Grade 4 prostate cancer epithelium). However, higher expression was observed in LNCaP, MDA PCa 2A, HPV-7 and HPV-10. A 9.5kb transcript was also observed in MDA PCa 2A and 2B. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:335.

Clone SL69 (SEQ ID NO:220 and 221)

A weak 2.6kb band was observed in normal testis as well as in chronic myelogenous leukemia and lymphoblastic leukemia. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:336.

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Clone SL86 (SEQ ID NO:242 and 243)

The sequence was expressed in normal prostate (2.7kb and 1.1kb) and testis (1.1kb). Low expression was observed in a cancer cell line blot using the cell lines described above. 1.1kb and 2.7kb transcripts were observed in the cell lines LNCaP, and MDA PCa 2a and 2b (metastatic prostate cells into bone, androgen sensitive), and weak 1.1kb transcript was seen in HPV-7 (immortalized normal prostate cells) and HPV-10 (immortalized prostate cancer cells). Additional sequence corresponding to this clone is disclosed in SEQ ID NO:337.

15 Clone SL195 (SEQ ID NO:288 and 289)

The sequence was expressed in normal prostate as a 1.9kb transcript, and the same transcript also observed in all cell lines in the cancer cell line blot described above. It was more heavily expressed in HeLa cell S3 and chronic myelogenous leukemia, and was expressed in all prostate cell lines. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:338.

Clone SL197 (SEQ ID NO:292 and 293)

Two transcripts, 2.4kb and 4kb, were observed in normal prostate and testis. Two very weak 2.4kb signals were observed in Hela cell S3 and chronic myelogenous leukemia. The 2.4kb transcript was expressed in all prostate cell lines. A 4kb transcript was found in LNCaP, MDA PCa 2A and 2B. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:339.

Those skilled in the art will recognize, or be able to ascertain, using not more than routine experimentation, many equivalents to the specific embodiments of

the invention described herein. Such specific embodiments and equivalents are intended to be encompassed by the following claims.

All patents, published patent applications and publications cited herein are incorporated by reference as if set forth fully herein.

TABLE 1

_	Sequence	Other Seq	Clone #	Nearest Neighbor If Available
Clone #	Name	Name	Cluster #	
SL-001	SL001	19s11	SL-001	S60754 (VNTR locus DXZ4)
	SL001M13			
SL-002	SL002	20sl2	SL-002	L07935 HUMVNTRA
SL-003	SL003	21si3	SL-003	AB006625 - KIAA0287 gene
	SL003	35-sl3-1m13		
	SL003	35-si3-1t7		
	SL003	37-sl3-1m13		
	SL003	39-sl3-1m13		
SL-004	SL004	22sl4	SL-004	
	SL004M13			
SL-005	SL005	23sl5	SL-005	
	SL005	30sl11b		
SL-006	SL006	24sl6	SL-006	
	SL006M13			cosmid genomic clone
SL-007	SL007	25s17	SL-003	AB006625- KIAA0287
	SL007	28-sl7-1m13		
	SL007	28-sl7-1t7		
	SL007	30-s17-1m13		
	SL007	30-s17-1t7		·
	SL007	32-s17-1m13		
_	SL007	32-s17-1t?		
SL-008	SL008	26s18	SL-008	HUMP65 E=9e-62 L-plastin. Phosphoprotein (p65)
SL-009	SL009	27sl9		
	SL009M13			
SL-010	SL010	28sl10	SL-005	
SL-011	SL011	29sl11a	SL-011	HSU10685 - MAGE-10 Gene
SL-012	SL012	31sl12	SL-011	HSU10685 - MAGE-10 Gene
SL-013	SL013	32sl13		
SL-015	SL015	34sl15	SL-015	HSU90336 - PEG3 mRNA
	SL015	46-si15-2m13		
	SL015	47-sl15-2m13		HSMRNAEN - Enkephalinase
	SL015	47-s115-2t7		
SL-016	SL016	10-s116-1m13	SL-016	
	SL016	10-s116-1t7		·
	SL016	11-s116-1m13		·
	SL016	18-si16-2m13		
	SL016	18-s116-2t7		
	SL016	19-si16-2m13	[.	

TABLE 1

				IABLE
	SL016	19-s116-2t7		
	SL016	20-sl16-2m13		
	SL016	20-s116-2t7		
	SL016	35sl16		
	SL016	9-s116-1t7		
SL-017	SL017	36sl17	SL-017	HUMORF01 - KIAA0101 gene
SL-028	SL028m13	Bl	SL-028	
	SL028t7	BI		
SL-029	SL029m13	WE97.C1.M13	SL-029	
	SL029t7	WE97.C1.T7		
SL-032	SL032m13	WE97.D1.M13	SL-032	HSTPIIG TPII gene
	SL032t7	WE97.D1.T7		for triosephosphate isomerase.
SL-036	SL036m13	WE97.E1.M13	SL-036	HSU81599 homeodomain protein
	SL036t7	WE97.E1.T7		HOXB13
SL-037	SL037m13	C1	SL-005	
	SL037m13	WE97.F1.M13	1	
	SL037t7	Cl		
SL-040	SL040m13	DI	SL-040	
	SL040t7	D1		
SL-041	SL041m13	El	SL-016	
	SL041m13	WE97.H1.M13		
	SL041t7	El		
	SL041t7	WE97.H1.T7		
SL-042	SL042m13	WE97.A2.M13	SL-008	HUMP65 phosphoprotein (p65)
	SL04217	WE97.A2.T7		HUMPLASTA L-plastin gene
SL-044	SL044m13	WE97.B2.M13	SL-016	
	SL044t7	WE97.B2.T7		
SL-045	SL045m13	WE97.C2.M13	SL-045	·
	SL045t7	WE97.C2.T7		genomic DNA
SL-046	SL046m13	WE97.D2.M13	SL-046	
	SL046t7	WE97.D2.T7		
SL-047	SL047m13	WE97.E2.M13	SL-047	
	SL047t7	WE97.E2.T7		
SL-050	SL050m13	WE97.F2.M13	SL-050	
	SL050t7	WE97.F2.T7	·	
SL-051	SL051m13	WE97.G2.M13	SL-051	
	SL051t7	WE97.G2.T7		
SL-054	SL054m13	WE97.H2.M13	SL-054	
	SL054t7	WE97.H2.T7		
SL-055	SL055m13	FI	SL-050	
	SL055t7	Fl		
	SL05517	WE97.A3.T7		

TABLE 1

		_		INDEE
SL-057	SL057m13	WE97.C3.M13	SL-057	
	SL057t7	WE97.C3.T7		
SL-058	SL058m13	WE97.D3.M13		HSLRPRIGN leucine-rich primary
	SL058t7	WE97.D3.T7		response protein 1.
SL-061	SL061m13	WE97.E3.M13	SL-028	
	SL061t7	WE97.E3.T7		
SL-062	SL062m13	WE97.F3.M13	SL-028	
	SL062t7	WE97.F3.T7		
SL-064	SL064m13	WE97.G3.M13	SL-064	
	SL064t7	WE97.G3.T7		
SL-066	SL066m13	WE97.H3.M13	SL-016	
	SL06617	WE97.H3.T7		
SL-067	SL067m13	H1	SL-067	HUMKIAAP - KIAA0095 gene
	SL067t7	Hl		
	SL06717	WE97.A4.T7		
SL-068	SL068m13	WE97.B4.M13	SL-068	
	SL068t7	WE97.B4.T7		
SL-069	SL069m13	WE97.C4.M13	SL-069	
	SL069t7	WE97.C4.T7		
SL-071	SL071m13	WE97.D4.M13	SL-071	
	SL071t7	WE97.D4.T7		
SL-072	SL072m13	WE97.E4.M13	SL-015	HSU90336 Human PEG3 mRNA
	SL072t7	WE97.E4.T7		AB006625 KIAA0287
SL-074	SL074m13	WE97.F4.M13	SL-074	
	SL074t7	WE97.F4.T7		
SL-075	SL075m13	WE97.G4.M13	SL-075	
	SL075t7	WE97.G4.T7		
SL-076	SL076m13	WE97.H4.M13	SL-076	
	SL07617	WE97.H4.T7		
SL-077	SL077m13	WE97.A5.M13	SL-077	
	SL07717	WE97.A5.T7		
SL-078	SL078m13	A2	SL-016	
	SL078m13	WE97.B5.M13		
	SL078t7	A2		BAC clone (with Alu)
SL-081	SL081m13	WE97.E5.M13	SL-003	AB006625 - KIAA0287 gene
	SL081t7	WE97.E5.T7		
SL-083	SL083m13	WE97.G5.M13	SL-083	
	SL08317	WE97.G5.T7		
SL-084		WE97.H5.M13	SL-084	
	SL08417	WE97.H5.T7		(HS295C6 Human DNA sequence)

TABLE 1

SL-085	ler 005-12	WE97.A6.M13	SL-085	
SL-086		WE97.B6.M13	SL-086	
3L-000		WE97.B6.T7	02 000	
L-087	12222	WE97.C6.M13	SL-087	EST and Mus musculus
3L-007	L	WE97.C6.T7		ras-GTPase-activating protein
SL-088		WE97.D6.M13		HSU90336 Human PEG3
3L-000	SL088117	WE97.D6.T7		& AB006625 - KIAA0287 gene
SL-089		WE97.E6.M13	SL-089	
3L-007	SL089t7	WE97.E6.T7	02 00	
SL-090	SL090m13		SL-090	
3L-070	SL090t7	D2		
SL-091	1	WE97.G6.M13	SL-091	
00-071	SL091t7	WE97.G6.T7	ļ	
			SL-092	HUMPRKACB testis-specific
SL-092	SL092m13	WE97.H6.M13		cAMP-dependent protein kinase
	SL092t7	WE97.H6.T7		catalytic subunit (C-beta isoform)
SL-093	SL093m13		SL-008	HUMLPLSTN2 L-plastin gene
0.00	SL093t7	E2		• • •
SL-094		WE97.B7.M13	SL-094	
3L -074	SL094t7	WE97.B7.T7		
SL-095		WE97.C7.M13	SL-003	AB006625 - KIAA0287
02 075	SL095t7	WE97.C7.T7		
SL-096		WE97.D7.M13	SL-096	
12-070	SL09617	WE97.D7.T7		
SL-097	SL097m13		SL-071	
02.007	SL097t7		1	
SL-098	SL098m13		SL-098	
00 070	SL098t7			
SL-099	SL099m13		SL-016	
02 0,,	SL099t7			
SL-100	SL100m13	F2	SL-085	
	SL100m13			SL100m13 Alu - 2e-71
	SL100t7	F2		
	SL100t7			
SL-102	SL102m13		SL-102	HSRPL32 ribosomal protein L32
	SL102t7		İ	
SL-103	SL103m13		SL-103	
<u></u>	SL103t7			
SL-105	SL105m13		SL-105	
	SL105t7			
SL-106	SL106m13		SL-106	
32 100	SL106t7			
SL-107	SL107m13		SL-016?	
10 <i>1</i>	SL107t7			SL107m13 -Alu - 2e-78
SL-110	SL110m13		SL-003	AB006625- KIAA0287 gene
	1		•	•

TABLE 1

			INDEL
	SL110t7		
SL-111	SL111m13	SL-111	
	SL111t7		
3L-112	SL112m13	SL-112	
_	SL112t7		
SL-115	SL115m13	SL-115	D86322 - calmegin
	SL115t7		
SL-116	SL116m13	SL-116	
	SL116t7		
CT 117	67.117.10	SL-117	HUMNUMB23 = HUMNPM
SL-117	SL117m13		Human nucleolar protein (B23)
	SL117t7		or Human nucleophosmin
SL-118	SL118m13	SL-118	
	SL118t7		
SL-119	SL119m13	SL-119	
	SL119t7		
SL-120	SL120m13	SL-046	
	SL120t7		
SL-121	SL121m13	SL-016	
	SL121t7		
SL-122	CT 122-12	SL-122	HUMPRKACB testis-specific
SL-122	SL122m13		cAMP-dependent protein kinase
	SL122t7		catalytic subunit (C-beta isoform)
3L-124	SL124m13	SL-016	
	SL124t7		
SL-125	SL125m13	SL-125	HSU19145 GAGE-4
	SL125t7	·	(US 5.648,226)
SL-127	SL127m13	SL-127	
	SL127t7		
SL-128	SL128m13	SL-005	
	SL128t7		
SL-130	SL130m13	SL-130	
	SL130t7		
SL-132	SL132m13	SL-011	HSU10685 MAGE-10 gene
	SL132t7		(US 5.612,201)
SL-134	SL134m13	SL-134	HSC70P Hsc 70 pseudogene
	SL134t7		(Heat Shock protein)
SL-135	SL135m13	SL-135	
	SL135t7		
SL-138	SL138m13	SL-051	
	SL138t7		
SL-139	SL139m13	SL-139	
	SL139t7		Homo sapiens cosmid
3L-142	SL142m13	SL-005	
	SL142t7		

TABLE 1

SL-144 SL144m13 SL-144 SL144m13 SL-144 SL144m13 SL-146 SL145m13 SL-003 AB006625- KIAA0287 gene SL-146 SL146m13 WE97.E7.T7 SL-146 SL146m13 WE97.E7.T7 SL-146 SL147m13 WE97.E7.T7 SL-147 SL147m13 WE97.F7.M13 SL-147 SL147m13 WE97.F7.M13 SL-147 SL148m13 WE97.G7.M13 SL-148 SL148m3 WE97.G7.T7 SL-148 SL148m3 WE97.G7.T7 SL-149 SL149m3 H2 SL149m3 H2 SL149m3 H2 SL150m13 A3 SL-150 SL150m13 A3 SL-151 SL151m13 WE97.B8.M13 SL-151 SL151m3 WE97.B8.M13 SL-151 SL152m13 WE97.B8.M13 SL-152 SL152m13 WE97.B8.M13 SL-152 SL152m13 WE97.B8.M13 SL-153 SL153m13 WE97.B8.M13 SL-154 SL154m13 WE97.B8.M13 SL-155 SL155m13 WE97.B8.M13 SL-155 SL155m13 WE97.B8.M13 SL-156 SL154m13 WE97.B8.M13 SL-028 SL155m13 WE97.B9.M13 SL-028 SL155m13 WE97.B9.M13 SL-028 SL155m13 WE97.B9.M13 SL-028 SL156m13 WE97.B9.M13 SL-028 SL156m13 WE97.B9.M13 SL-028 SL156m13 WE97.B9.M13 SL-028 SL162m13 SL162m13 SL-028 SL162m13 SL162m13 SL-028	SL-143	SL143m13		SL-143	Genomic clone
SL-1447		SL143t7			AC003978
SL-1447	SL-144			SL-144	
SL-145		i			E= 3-81
SL-146	SL-145			SL-003	AB006625- KIAA0287 gene
SL14617 WE97.E7.T7 SL147m13 G2 SL147m13 WE97.F7.M13 SL147m13 WE97.F7.M13 SL147m13 WE97.F7.M13 SL147m13 WE97.G7.M13 SL148m13 WE97.G7.M13 SL-016 SL148m13 WE97.G7.T7 SL-149 SL149m13 H2 SL149m13 A3 SL150m13 A3 SL150m13 SL150m7 A3 SL-150 "Human DNA sequence" SL151m13 WE97.B8.M13 SL-151 SL151m13 WE97.B8.M13 SL-151 SL151m13 WE97.B8.M13 SL-151 SL152m13 WE97.C8.M13 SL-152 SL152m13 WE97.C8.M13 SL-152 SL152m13 WE97.D8.M13 SL-153 SL153m13 WE97.D8.M13 SL-153 SL153m13 WE97.B8.M13 SL-154 SL154m13 WE97.B8.M13 SL-155 SL155m13 WE97.F8.M13 SL-028 SL155m13 WE97.F8.M13 SL-028 SL155m13 WE97.G8.M13 SL-016 SL156m13 WE97.A9.M13 SL-157 SL157m13 WE97.A9.M13 SL-157 SL157m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-159 SL159m13 WE97.B9.M13 SL-159 SL159m13 WE97.B9.M13 SL-161 SL161m13 WE97.D9.M13 SL-051 SL161m13 WE97.D9.M13 SL-051 SL161m13 WE97.D9.M13 SL-161 SL161m13 WE97.D9.M13 SL-162 SL162m13 B3 SL-162 SL162m13 B3 SL-162 SL164m13 WE97.G9.M13 SL-162 SL164m13 WE97.G9.M13 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164m13 WE97.		SL146m13	WE97.E7.M13	SL-146	
SL147m13 WE97.F7.M13 SL147t7 G2 Control gene CDC2 (2) HSU29091 selenium-binding SL-148 SL148m13 WE97.G7.M13 SL-016 SL148m13 WE97.G7.T7 SL-149 SL149m13 H2 SL149m7 H2 SL149m7 H2 SL150t7 A3 SL-150 SL151m13 WE97.B8.M13 SL-151 SL151m13 WE97.B8.M13 SL-151 SL152m3 WE97.C8.M13 SL-151 SL152m3 WE97.C8.M13 SL-152 SL152m3 WE97.C8.M13 SL-152 SL152m3 WE97.D8.M13 SL-153 SL153m13 WE97.D8.M13 SL-153 SL153m13 WE97.D8.M17 SL-154 SL154t7 WE97.E8.T7 SL-154 SL155m13 WE97.F8.M13 SL-028 SL155m13 WE97.F8.M13 SL-028 SL155m13 WE97.G8.M13 SL-028 SL156m13 WE97.G8.M13 SL-028 SL156m13 WE97.G8.M13 SL-028 SL156m13 WE97.G8.M13 SL-016 SL156m13 WE97.A9.M13 SL-016 SL158m13 WE97.A9.M13 SL-157 SL157m13 WE97.A9.M13 SL-011 HSU10685 MAGE-10 gene (US 5.612.201) SL-160 SL160m13 WE97.B9.M13 SL-011 SL161m3 WE97.B9.M13 SL-016 SL160m13 WE97.D9.M13 SL-016 SL161m3 WE97.D9.M13 SL-161 SL161m3 WE97.D9.M13 SL-161 SL161m3 WE97.D9.M13 SL-161 SL161m3 WE97.D9.M13 SL-161 SL162m3 B3 SL-162 SL163m3 WE97.P9.M13 SL-162 SL163m3 WE97.P9.M13 SL-162 SL163m13 WE97.P9.M13 SL-164 SL164m3 WE97.G9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m3 WE97.G9.M13 SL-016 SL164m		1	1		
SL 148	SL-147	SL147m13	G2	SL-147	(1) HSCDC2R Human cell cycle
SL-148 SL148m13 WE97.G7.T7 SL-016 SL-149 SL149m13 H2 SL-149 SL-150 SL150m13 A3 SL-150 SL-151 SL151m13 WE97.B8.M13 SL-151 SL-1517 WE97.B8.M13 SL-151 Genomic frag SL-152 SL152m13 WE97.C8.T7 SL-152 SL-153 SL153m13 WE97.D8.T7 SL-153 SL-154 SL153m13 WE97.D8.T7 SL-154 SL-154 SL154m17 WE97.B8.M13 SL-155 SL-155 SL155m13 WE97.B8.M13 SL-155 SL155m13 WE97.B8.M13 SL-156 SL155m13 - EST only in Mouse SL-156 SL156m13 WE97.B8.M13 SL-016 SL156m13 WE97.B8.M13 SL-157 SL155m13 - EST only in Mouse SL-157 WE97.B8.T7 SL-016 SL155m13 - EST only in Mouse SL-157 WE97.B9.TAS SL-016 HSU10685 MAGE-10 gene SL-157 WE97.B9.M13 SL-011 HSU10685 MAGE-10 gene <td< td=""><td></td><td>SL147m13</td><td>WE97.F7.M13</td><td></td><td>control gene CDC2</td></td<>		SL147m13	WE97.F7.M13		control gene CDC2
SL148t7 WE97.G7.T7 SL-149 SL149m13 H2 SL149t7 H2 SL149t7 H2 SL-150 SL150m13 A3 SL-150 "Human DNA sequence" SL-151 SL151m13 WE97.B8.M13 SL-151 SL151m13 WE97.B8.M13 SL-151 SL152t7 WE97.B8.T7 Genomic frag SL-152 SL152m13 WE97.C8.M13 SL-153 SL153m13 WE97.D8.M13 SL-153 SL153m13 WE97.D8.T7 SL-154 SL154m17 WE97.B8.T7 SL-154 SL154m17 WE97.B8.T7 SL-154 SL155m13 WE97.D8.T7 SL-155 SL155m13 WE97.F8.M13 SL-155 SL155m13 WE97.F8.M13 SL-155 SL155m13 WE97.G8.M13 SL-016 SL156m13 WE97.G8.M13 SL-157 SL155m13 WE97.G8.M13 SL-157 SL155m13 WE97.A9.M13 SL-157 SL157m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-159 SL158m13 WE97.A9.M13 SL-159 SL156m13 WE97.C9.M13 SL-161 SL160m13 WE97.C9.M13 SL-161 SL161m13 WE97.C9.M13 SL-161 SL162m13 B3 SL162t7 WE97.B9.M13 SL-161 SL162m13 B3 SL162t7 B3 SL162t7 B3 SL-162 SL162m13 SL163t7 WE97.F9.M13 SL-161 SL164t7 WE97.G9.M13 SL-016 SL165m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.M13 SL-016 SL164t7 WE97.G9.M13 SL-016 SL165m13 WE97.G9.M13 SL-016 SL165m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.M13 SL-016 SL165m13 WE97.G9.M13		SL147t7	G2		(2) HSU29091 selenium-binding
SL-149	SL-148	SL148m13	WE97.G7.M13	SL-016	
SL 149t7 H2 SL 150m13 A3 SL 150t7 A3 SL 150t7 A3 SL 151t7 SL 151m13 WE97.B8.M13 SL 1515 SL 152m13 WE97.C8.M13 SL 152 SL 152m13 WE97.C8.M13 SL 1515 SL 153m13 WE97.D8.M13 SL 153m13 WE97.D8.M13 SL 153m13 WE97.D8.M13 SL 153t7 WE97.E8.T7 SL 155m13 WE97.F8.M13 SL 155t7 WE97.F8.T7 SL 155m13 WE97.G8.M13 SL 155t7 WE97.F8.T7 SL 155m13 WE97.G8.M13 SL 155m13 SL 155m13 WE97.G8.M13 SL 155m13 SL 155m13 WE97.G8.M13 SL 155m13 WE97.G8.M13 SL 155m13 WE97.G8.M13 SL 155m13 WE97.H8.M13 SL 155m13 WE97.H8.M13 SL 155m13 WE97.H8.M13 SL 155m13 WE97.A9.M13 SL 155m13 WE97.A9.M13 SL 155m13 WE97.A9.M13 SL 155m13 WE97.A9.M13 SL 15m13 SL 15m13 WE97.A9.M13 SL 16m13 WE97.A9.M13 SL 16m14 W		SL148t7	WE97.G7.T7		
SL-150	SL-149	SL149m13	H2	SL-149	
SL150t7 A3 "Human DNA sequence"		SL149t7	H2		
SL-151 SL151m13 WE97.B8.M13 SL-151 Genomic frag	SL-150	SL150m13	A3	SL-150	
SL15117 WE97.B8.T7 Genomic frag		SL150t7	A3		"Human DNA sequence"
SL-152	SL-151	SL151m13	WE97.B8.M13	SL-151	
SL152t7 WE97.C8.T7 SL-153 SL153m13 WE97.D8.M13 SL-154 SL153t7 WE97.D8.T7 SL-154 SL154t7 WE97.E8.T7 SL-155 SL155m13 WE97.F8.M13 SL-028 SL155m13 WE97.F8.M13 SL-028 SL155m13 WE97.F8.M13 SL-028 SL155m13 - EST only in Mouse SL156t7 WE97.G8.M13 SL-016 SL156t7 WE97.G8.M13 SL-016 SL157t7 WE97.H8.M13 SL-157 SL157m13 WE97.H8.M13 SL-157 SL157m13 WE97.A9.M13 SL-157 SL158m13 WE97.A9.M13 SL-011 HSU10685 MAGE-10 gene (US 5,612.201) SL-159 SL159t7 WE97.A9.T7 Chromosome 11 pac SL-160 SL160t7 WE97.B9.T7 SL-011 SL161m13 WE97.C9.M13 SL-051 SL161t7 WE97.D9.M13 SL-161 HUMP65 phosphoprotein (p65) HUMPLASTA L-plastin gene SL162t7 B3 SL162t7 B3 SL162t7 B3 SL163t7 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 SL165m13 WE97.H9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 SL165m13 WE97.H9.M13 SL-016 SL165m13 WE97.H9.M13		SL151t7	WE97.B8.T7		Genomic frag
SL-153	SL-152	SL152m13	WE97.C8.M13	SL-152	
SL153t7 WE97.D8.T7 SL-154 SL154t7 WE97.E8.T7 SL-154 HUMPAR5R - PAR-5 mRNA		SL152t7	WE97.C8.T7		
SL-154 SL154t7 WE97.E8.T7 SL-154 HUMPAR5R - PAR-5 mRNA 3L-155 SL155m13 WE97.F8.M13 SL-028 SL-156 SL156m13 WE97.G8.M13 SL-016 SL-157 WE97.G8.M13 SL-016 SL156t7 WE97.G8.T7 SL-157 SL157m13 WE97.H8.M13 SL-157 SL157m13 WE97.H8.T7 SL-011 HSU10685 MAGE-10 gene (US 5,612.201) SL-158 SL158m13 WE97.A9.M13 SL-159 SL159m13 WE97.B9.M13 SL159t7 WE97.B9.T7 SL-051 SL-160 SL160m13 WE97.C9.M13 SL-161 SL161m13 WE97.D9.M13 SL-161 HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL-163 SL163m13 WE97.F9.M13 SL-164 SL164m13 WE97.G9.M13 SL-164 SL164m13 WE97.G9.M13 SL-165 SL165m13 WE97.H9.M13 SL-165 SL165m13 WE97.H9.M13	SL-153	SL153m13	WE97.D8.M13	SL-153	
SL-155		SL153t7	WE97.D8.T7		
SL155t7 WE97.F8.T7 SL155m13 - EST only in Mouse	SL-154	SL154t7	WE97.E8.T7	SL-154	HUMPAR5R - PAR-5 mRNA
SL-156 SL156m13 WE97.G8.M13 SL-016 SL-157 WE97.G8.T7 SL157m13 WE97.H8.M13 SL-157 SL-157 SL157m13 WE97.H8.T7 SL-157 SL-158 SL158m13 WE97.A9.M13 SL-011 HSU10685 MAGE-10 gene (US 5.612.201) SL-159 SL159m13 WE97.A9.T7 Chromosome 11 pac SL-159 SL159m13 WE97.B9.M13 SL-051 SL-160 SL160m13 WE97.C9.M13 SL-051 SL-161 SL161m13 WE97.D9.M13 SL-161 HUMP65 phosphoprotein (p65) HUMPLASTA L-plastin gene SL-162 SL162m13 SL-162 SL-162 SL-163 SL163m13 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL-016 SL-165 SL165m13 WE97.H9.M13 SL-016	3L-155	SL155m13	WE97.F8.M13	SL-028	
SL156t7 WE97.G8.T7 SL157m13 WE97.H8.M13 SL-157 SL157t7 WE97.H8.M13 SL-157 SL157t7 WE97.H8.T7 SL-158 SL158m13 WE97.A9.M13 SL-011 HSU10685 MAGE-10 gene (US 5.612.201) SL159m13 WE97.B9.M13 SL-159 Chromosome 11 pac SL159t7 WE97.B9.T7 Chromosome 11 pac SL160t7 WE97.C9.T7 SL-161 SL161m13 WE97.C9.T7 SL-161 SL161m13 WE97.D9.M13 SL-161 HUMP65 phosphoprotein (p65) HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL-162 SL162t7 B3 SL-162 SL163t7 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 SL165m13 WE97.G9.T7 SL-165 SL165m13 WE97.H9.M13 SL-016 SL165m13 WE97.H9.M13 SL-165 SL165m13 WE97.		SL155t7	WE97.F8.T7		SL155m13 - EST only in Mouse
SL-157 SL157m13 WE97.H8.M13 SL-157 SL-158 SL157m13 WE97.H8.T7 SL-011 HSU10685 MAGE-10 gene (US 5,612,201) SL-158 SL158m13 WE97.A9.T7 CUS 5,612,201) SL-159 SL159m13 WE97.B9.M13 SL-159 SL-160 SL160m13 WE97.C9.M13 SL-051 SL-161 SL161m13 WE97.C9.T7 HUMP65 phosphoprotein (p65) SL-161 SL161m13 WE97.D9.T7 HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL-162 SL-163 SL163m13 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL-016 SL-016 SL-165 SL165m13 WE97.H9.M13 SL-016 SL-016 SL-016	SL-156	SL156m13	WE97.G8.M13	SL-016	
SL157t7 WE97.H8.T7 SL-158 SL158m13 WE97.A9.M13 SL-011 HSU10685 MAGE-10 gene (US 5,612,201)		SL156t7	WE97.G8.T7		
SL-158 SL158m13 WE97.A9.M13 SL-011 HSU10685 MAGE-10 gene (US 5,612,201) SL-159 SL159m13 WE97.B9.M13 SL-159 Chromosome 11 pac SL-160 SL160m13 WE97.C9.M13 SL-051 Chromosome 11 pac SL-161 SL161m13 WE97.C9.T7 WE97.C9.T7 HUMP65 phosphoprotein (p65) SL-161 SL161t7 WE97.D9.T7 HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL-162 SL-163 SL163m13 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL-016 SL-165 SL165m13 WE97.H9.M13 SL-165	SL-157	SL157m13	WE97.H8.M13	SL-157	
SL158t7 WE97.A9.T7 (US 5,612,201)		SL157t7	WE97.H8.T7		
SL-159 SL159m13 WE97.B9.M13 SL-159 Chromosome 11 pac SL-160 SL160m13 WE97.C9.M13 SL-051 SL-161 SL160t7 WE97.D9.M13 SL-161 HUMP65 phosphoprotein (p65) SL-161 WE97.D9.T7 HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL-162 SL-163 SL163m13 WE97.F9.M13 SL-016 SL-164 SL164m13 WE97.F9.T7 WE97.G9.M13 SL-165 SL165m13 WE97.H9.M13 SL-165	SL-158	SL158m13	WE97.A9.M13	SL-011	HSU10685 MAGE-10 gene
SL159t7 WE97.B9.T7 Chromosome 11 pac		SL158t7	WE97.A9.T7		(US 5,612,201)
SL-160 SL160m13 WE97.C9.M13 SL-051 SL160t7 WE97.C9.T7 SL-051 WE97.C9.T7 SL-161 SL161m13 WE97.D9.M13 SL-161 HUMP65 phosphoprotein (p65) HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL162t7 B3 SL-162 SL163m13 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL163t7 WE97.F9.T7 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-016 SL165m13 WE97.H9.M13 SL-016 SL-165	SL-159	SL159m13	WE97.B9.M13	SL-159	
SL 160t7 WE97.C9.T7 SL 161 SL 161 ME97.D9.M13 SL 161 HUMP65 phosphoprotein (p65) HUMPLASTA L-plastin gene		SL159t7	WE97.B9.T7		Chromosome 11 pac
SL-161 SL161m13 WE97.D9.M13 SL-161 HUMP65 phosphoprotein (p65) SL161t7 WE97.D9.T7 HUMPLASTA L-plastin gene SL-162 SL162m13 B3 SL-162 SL162t7 B3 SL-016 HSU75330 -NCAM21 SL163t7 WE97.F9.T7 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 3L-165 SL165m13 WE97.H9.M13 SL-165	SL-160	SL160m13	WE97.C9.M13	SL-051	
SL161t7 WE97.D9.T7 HUMPLASTA L-plastin gene		SL160t7	WE97.C9.T7		
SL-162 SL162m13 B3 SL-162 SL162t7 B3 SL-163 SL-016 SL-163 SL163m13 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-016 3L-165 SL165m13 WE97.H9.M13 SL-165	SL-161	SL161m13	WE97.D9.M13	SL-161	
SL-163 SL162t7 B3 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.F9.M13 SL-016 SL164t7 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 SL165m13 WE97.H9.M13 SL-165		SL161t7	WE97.D9.T7		HUMPLASTA L-plastin gene
SL-163 SL163m13 WE97.F9.M13 SL-016 HSU75330 -NCAM21 SL163t7 WE97.F9.T7 SL-016 HSU75330 -NCAM21 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 3L-165 SL165m13 WE97.H9.M13 SL-165	SL-162	SL162m13	B3	SL-162	,
SL163t7 WE97.F9.T7 SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 3L-165 SL165m13 WE97.H9.M13 SL-165		SL162t7	В3		
SL-164 SL164m13 WE97.G9.M13 SL-016 SL164t7 WE97.G9.T7 SL-165 3L-165 SL165m13 WE97.H9.M13 SL-165	SL-163	SL163m13	WE97.F9.M13	SL-016	HSU75330 -NCAM21
SL164t7 WE97.G9.T7 3L-165 SL165m13 WE97.H9.M13 SL-165		SL163t7	WE97.F9.T7		
3L-165 SL165m13 WE97.H9.M13 SL-165	SL-164	SL164m13	WE97.G9.M13	SL-016	
		SL16417	WE97.G9.T7		
SL165t7 WE97.H9.T7 (genomic seq)	3L-165	SL165m13	WE97.H9.M13	SL-165	
		SL165t7	WE97.H9.T7	L	(genomic seq)

TABLE 1

				.,.522 .
SL-166	SL166m13	C3	SL-166	
	SL166t7	C3		
	SL166t7	WE97.A10.T7		
3L-167	SL167m13	WE97.B10.M13	SL-167	HUMLPACI09 lipoprotein-associated
	SL167t7	WE97.B10.T7		coagulation inhibitor (LACI) gene
SL-168	SL168m13	WE97.C10.M13	SL-168	
	SL168t7	WE97.C10.T7		
SL-169	SL169m13	WE97.D10.M13	SL-169	HUMNEUROF oligodendrocyte
	SL169t7	WE97.D10.T7		myelin glycoprotein (OMG)
SL-170	SL170m13	WE97.E10.M13	SL-170	
	SL17017	WE97.E10.T7		
SL-171	SL171m13	WE97.F10.M13	SL-171	AB002374 - KIAA0376 gene
	SL171t7	WE97.F10.T7		
SL-172	SL172m13	WE97.G10.M13	SL-016	
	SL172t7	WE97.G10.T7		_
SL-173	SL173m13	WE97.H10.M13	SL-173	
	SL173t7	WE97.H10.T7		
SL-174	SL174m13	D3	SL-174	
	SL174t7	D3		
SL-175	SL175m13	WE97.B11.M13	SL-016	
	SL175t7	WE97.B11.T7		
SL-176	SL176mi3	WE97.C11.M13	SL-176	,
	SL176t7	WE97.C11.T7		
3L-177		WE97.D11.M13	SL-177	
	SL177t7	WE97.D11.T7		
SL-178	SL178m13	WE97.E11.M13	SL-178	
	SL178t7	WE97.E11.T7		Human BAC clone
SL-179	SL179m13	WE97.F11.M13	SL-179	
	SL179t7	WE97.F11.T7		
SL-181	SL181m13	WE97.H11.M13	SL-181	
	SL181t7	WE97.H11.T7		
SL-182	SL182m13	F3	SL-182	HUMAPEA apurinic/apyrimidinic
	SL182m13	WE97.A12.M13		endonuclease (HAPIh)
	SL182t7	F3		HSHAP1MR Human HAP1 mRNA
SL-183	L	WE97.B12.M13	SL-046	
	SL183t7	WE97.B12.T7		
SL-184		WE97.C12.M13	SL-016	
	SL184t7	WE97.C12.T7		
SL-186	+	WE97.D12.M13	SL-186	
	SL18617	WE97.D12.T7		
SL-187		WE97.E12.M13	SL-187	
, LO.	SL187t7	WE97.E12.T7		
SL-188	SL188m13		SL-188	
00	SL188t7	G3		
	SL188t7	WE97.F12.T7		
	125,40017			

TABLE 1

SL-191	SL191m13	WE97.H12.M13	SL-181	r,
	SL191t7_	WE97.H12.T7		
SL-192	SL192m13	H3	SL-192	
	SL192t7	H3		Human DNA sequence"
SL-193	SL193m13	A4	SL-193	
	SL19317	A4		
SL-194	SL194m13	B4	SL-194	HUMKGIDD - KIAA0098 gene
	SL19417	B4		
SL-195	SL195m13	C4 .	SL-195	
	SL195t7	C4		
SL-196	SL196m13	D4	SL-196	HUMMAOAAA monoamine oxidase
	SL196t7	D4		(MAOA)
SL-197	SL197m13	E4	SL-197	
	SL197t7	E4		· ·
SL-198	SL198m13	F4	SL-198	
	SL198t7	F4		
SL-199	SL199m13	G4	SL-016	
	SL199t7	G4		
SL-201	SL201m13	A5	SL-028	
	SL201t7	A5		(Mouse ESTs only)
SL-202	SL202m13	B5	SL-202	mitochondrial genome & ESTs(?)
	SL20217	B5		
SL-203	SL203m13	C5	SL-040	
	SL203t7	C5		
SL-204	SL204m13	D5	SL-204	
	SL20417	D5		
SL-205	SL205m13	E5	SL-205	
	SL205t7	.E5		
SL-206	SL206m13	F5	SL-015	AB006625 - KIAA0287 gene
	SL206t7	F5		,
SL-207	SL207m13	G5	SL-207	HUMFOLMES - DHFR
	SL20717	G5		dihydrofolate reductase gene
SL-208	SL208m13	H5	SL-208	AB011165 - KIAA0593
<u> </u>	SL20817	H5		
SL-209	SL209m13	A6	SL-209	
	SL209t7	A6		

batch	1
batch :	2
batch :	3
batch ·	1

TABLE 2

では、大型電子の内閣の	Bla	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seg						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(X)
10-5/16-117	<none></none>	<none></none>	△NONE >	<none></none>	<none></none>	ANONE
18-5 16-217	< MONE>	ÚN COV	- ANONA	MT PI FPI	METALLOTHIONEIN (MT)>PIR2:S30567 metallothionein - plaice>GP:PPMMET_1 P:plaiessa mRNA for metallothionein	0 32
		ROGRESS				
		*** Human Chromosome 11p14.3 PAC clone pDJ939m16; HTGS				
22si4	AC004601	AC004601 phase 1, 3 unordered pieces.	0.016	VP1_BPCHP	PROTEIN VP1 (ORF1)	1.0
		Homo sapiens chromosome 16 BAC clone CIT987SK-270G1 complete				
27sl9	AF001549 seq	sedneuce.	7.28-28		ALUG_HUMAN IIII ALU SUBFAMILY SP WARNING ENTRY IIII	3.59-07
-		Homo sapiens Rad51-interacting			Mus musculus RAD51-binding protein RAB22	
32sl13	AF006259	AF006259 protein mRNA, complete cds.	1.2e-09	MMU93583_1	mRNA, complete cds	1.2e-13
					Mus musculus transcription factor Genesis	
					mRNA, complete cds; A winged helix retinoic-	-
					acid hepatocyte nuclear factor 3/forkhead	
		Human prostatic acid phosphatase			transcription factor; HNF3/FH transcription	
39-sl3-1m13	U07083	(ACPP) gene, exon 1.	1.1e-09	MMU41047_1	factor	0.36
47 - 145 047	0.0001	Sequence 2 from Patent EP	01 -0 -	Li 4 Ci 4	LINCIN	L
47-5115-217	108026	0272928.	4.89-52	VNONE>	<non></non>	V V V
					SIK1 PROTEIN>PIR2:S48550 hypothetical	
					protein 1LH19/W - yeast (Saccharoniyees	
		Homo saniens PAC clone			cerevisiae Sikto (SIK1) nene complete cds:	
-		DJ0844F09 from 7p12-p13.			Possible microlubule binding protein; similar to	
sl102m13	AC004453	AC004453 complete sequence.	5.0a-50	SIKI_YEAST	GenBank Accession Number U14913	2.78-09
					Mouse CBA/J Ig heavy chain V1 region	
		Human BAC clone RG114A06 from			pseudogene, 5' end; 1g heavy chain precursor;	
s1103m13	AC002542	AC002542 7q31, complete sequence.	0.78	MUSIGHV01B_1	MUSIGHV01B_1 Possible pseudogene	0.30
					Mouse CBA/J Ig heavy chain V1 region	
1,00	1	Human BAC clone RG114A06 from	,		pseudogene, 5' end; ig heavy chain precursor;	,
18110317	AC002542	ACUU2542 / 431, complete sequence.	7.08-11	MUSIGHV01B_1	7.08-11 MUSIGHV01B_1 Possible pseudogene	0.25

TABLE

		BlastN vs. Gb (nearest neighbor)			BlastX vs. NBPdh (negrest neighbor)	
Seq. Name and/or Other Seq.						
Магле.	Accession	Hit Description	P(V)	Accession	Hit Description	P(S)
·					HYPOTHETICAL PROTEIN MJ0694>PIR2:F64386 hypothetical protein MJ0694 - Methanococcus jannaschii>GP:U67516_8 Methanococcus jannaschii section 58 of 150 of the complete	
sl106t7	148979	Sequence 6 from patent US 5627054.	4.38-39	Y694_METJA	genome; Conserved hypothetical protein; Similar to SP:Q12499 PID:1420682 PI	1.5e-08
sl107t7.fsa	AL021385	Human DNA sequence SEQUENCING IN PROGRESS AL021385 from clone 269M15; HTGS phase 1.	2.69-07	ALU4 HUMAN IIII	IIII ALU SUBFAMILY SB2 WARNING ENTRY IIII	0.45
		HS-1008-A2-A05-MF.abi CIT Human Genomic Sperm Library C Homo				
-		sapiens genomic clone Plate=CT 330 Col=10 Row=A, genomic survey				
s1124t7	B31344	sequence.	1.0e-55	ALU7 HUMAN	IIII ALU SUBFAMILY SO WARNING ENTRY IIII 1.26-14	1.29-14
					HYPOTHETICAL TRP-ASP REPEATS	
					CHROMOSOME ISPIRESSERIOR hypothetical	
					protein SPAC18B11.10 - fission yeast	
		NO COMMITTEE OF THE PROPERTY O			(Schizosaccharomyces	
		numan DNA sequence from PAC 138A5 on chromosome X contains			pombe)>GP:SPAC18B11_10 S;pombe	
s1127t7	Z83818	ESTs.	2.89-16	YA3A_SCHPO	SPAC18B11;10, le	0.97
		Homo sapiens chromosome 5, P1			Homo sapiens BAC clone RG013N12 from	
sl135m13	AC003959	AC003959 sequence.	1.89-57	AC004416_5	/q31;2, complete sequence; H_RG013N12;gw;1335199;a	0.016
		Human PAC clone DJ1055C04 from.			A; thaliana transcribed sequence; clone VDV28-22792 3' and: similar to nonsnectic lind-	
sl135t7	AC003044	7p15-7p21, complete sequence.	3.89-25	ATTS0669_1	transfer protein precursor	0.77
sl144m13	AC003684	Homo sapiens; HTGS phase 1, 53 AC003684 unordered pieces	2.2a.10	ANOME	SINCIAN) in Civi
		*** SEQUENCING IN PROGRESS	2			
		*** Human Chromosome 7 BAC				-
2144467	00070004	Clone 155b01; HTGS phase 1, 11	1	1		•
211441/	AC004089	AC004089 unordered pleces.	0.25	<none></none>	<none></none>	KNONE

TABI F

	Bla	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq.						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(V)
SL149m13		Human carcinoma cell-derived Alu				
WE97.H7.M13	M87923	RNA transcript, clone CE12.	7.2e-55	ALU2 HUMAN	ALU2_HUMAN IIII ALU SUBFAMILY SB WARNING ENTRY IIII 4.76-17	4.78-17
		Homo sapiens DNA polymerase				
		gamma (POLG) gene, nuclear gene				
		encoding mitochondrial protein,				
SL150m13 WE		partial sequence, genomic survey				
97.A8.M13	AF019122	sequence.	5.59-07	<none></none>	<none></none>	ANONE >
		Cyanidium caldarium RK1				
SL152m13	AF022186	chloroplast sequence.	0.11	<none></none>	<none></none>	<none></none>
		Homo sapiens Xp22 BAC GSHB-				
	,	257G1 (Genome Systems BAC			artifact-warning sequence (translated ALU class	
SL15217	AC002524	Library) complete sequence.	3.59-28	F40201	F) - human	1.29-05
		Human 4-hydroxyphenylpyruvate-			artifact-warning sequence (translated ALU class	
SL153m13	U29895	dioxygenase gene, complete cds.	4.48-15	C40201	C) - human	0.49
					X-linked retinopathy protein (C-terminal, clone	
					XEH.8c) - human (fragment)>GP:S58722_1 X-	
					linked retinopathy protein (3' region, clone	
		Human 4-hydroxyphenylpyruvale-			XEH;8c] [human, mRNA Partial, 390 nt]; This	
SL15317	U29895	dioxygenase gene, complete cds.	5.1e-09	A46010	sequence comes from Fig; 5	0.070
					GENOME POLYPHOTEIN (CONTAINS: N-	
		-			TERMINAL PROTEIN; HELPER COMPONENT	
					PROTEINASE (EC 3.4.22) (HC-PRO); 42-50	
					KD PROTEIN; CYTOPLASMIC INCLUSION	
_					PROTEIN (CI); 6 KD PROTEIN; NUCLEAR	
		Caenorhabditis elegans cosmid			INCLUSION PROTEIN A (NI- A) (EC 3.4.22)	
SL155m13	Z99286	Y7A9C, complete sequence.	0.016	POLG_PRSVH	POLG_PRSVH (49K PROTEINASE) (49	1.0
		Human Chromosome 16 BAC clone CIT987SK-A-363E6, complete				
SL157m13	U91321	sequence.	6.09-26	ALU1_HUMAN	6.0e-26 ALU1_HUMAN IIII ALU SUBFAMILY J WARNING ENTRY IIII	4.58-11

TABLE 2

	BlastN	stN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq. Name.	Accession	Hit Description	(S)	Accession	Hit Description	P(V)
SL160f7	SNON'S		NON V	CA34 HUMAN	PROCOLLAGEN ALPHA 3(IV) CHAIN PRECURSOR>PIRT:CGHU3B collagen alpha 3(IV) chain precursor, long splice form - human>GPN:HSCOL4A3_1 H;sapiens COL4A3 mRNA; Type IV collagen alpha 3 chain>GP:HSCOL4A3_1 H;sapiens COL4A3 mRNA; Type IV collagen alpha 3	0.99
SL16217 WE97.E9.T7			0.0029	PRF1_LYCES	36.4 KD PROLINE-RICH PROTEIN>PIR2:S19129 proline-rich protein TPRP-F1 - tomato>GP:LETPRPF1_1 L; esculentum TPRP-F1 gene for a proline rich protein	0.99
SL16917	AC004687	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome 17, clone hRPC.1171_1_10; HTGS AC004687 phase 1, 4 unordered pieces.	2.58-11	< NONE>	«NONE»	<none></none>
SL174t7	<none></none>		<non5< td=""><td>A54895</td><td>mucin 2, intestinal/tracheal - rat (fragment)</td><td>0.13</td></non5<>	A54895	mucin 2, intestinal/tracheal - rat (fragment)	0.13
SL176m13	1	Caenorhabditis elegans cosmid C44B9, complete sequence.	0.00084	<none></none>	<none></none>	«NONE»
SL,17617	1 1	Caenorhabditis elegans cosmid R05H10, complete sequence.	0.38	<none></none>	<none></none>	«NONE»
SL177m13	AL022279	Caenorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** AL022279 from clone Y43F11; HTGS phase 1.	0.00064	ANX7_BOVIN	ANNEXIN VII (SYNEXIN) (FRAGMENT)>PIR2:A27695 synexin - bovine (fragment)	0.0018
SL17717	AC002416	Human Chromosome X, complete AC002416 sequence.	1.8e-17	<none></none>	<none></none>	<none></none>
SL179m13	Caenor AF039052 T22D1.	Caenorhabditis elegans cosmid T22D1.	0:030	CMU23045_8	Cepaea nemoralis complete mitochondrial genome; ATPase subunit B>GP:CMU23045_8 Cepaea nemoralis complete mitochondrial genome; ATPase subunit 8	0.98
SL17917	L41631	Mus musculus glucokinase gene, complete cds.	0.017	<none></none>	<none></none>	«NONE»

TABLE 2

	E B	BlastN vs (3h (nearest neighbor)			BlastY ve NBDdh (pearest paighbor)	
		Sir ve. Co (neglect liciginos)			בומפול אפי נאו וו עם (ווסמוספו ווסוקוווטטו)	
and/or Other Seq.						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(V)
Si 181m13	708867	Gaenorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from clone VE2R11- HTGS phase 1	0 017	DC0046	hypothetical protein (cpcG4 region) - Anabaena sp. (strain PCC 7120) ((ragment)>GP:ANARODCORA_6 Anabaena sp; cpcF gene, 3' end; cpcG1, cpcG2, cpcG3, and cpcG4 genes, complete cds; and unknown one 3' end	8
SL18117		Caenorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from clone Y52B11; HTGS phase 1.	0.018	PS0245	hypothetical protein (cpcG4 region) - Anabaena sp. (strain PCC 7120) (fragment)>GP:ANARODCORA_6 Anabaena sp; cpcF gene, 3' end; cpcG1, cpcG2, cpcG3, and cpcG4 genes, complete cds; and unknown ORF, 3' end	0.99
SL191m13	Z98867	Caenorhabdilis elegans DNA *** SEQUENCING IN PROGRESS *** from clone Y52B11; HTGS phase 1.	0.019	<none></none>	< NONE>	<none></none>
SL195m13	AC004626	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome #16q12.1+16q22/23+1q11/12 BAC clone CIT987SK-A-427H10; HTGS AC004626 phase 1, 15 unordered pieces.	0.050	HSU55091_1	Human isolate HR015 T cell receptor V-beta complementarity determining region 3 mRNA, partial cds	1.0
SL19517	AC004626	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome #16q12.1+16q22/23+1q11/12 BAC clone CIT987SK-A-427H10; HTGS phase 1, 15 unordered pieces.	0.053	S5407B	probable membrane protein YPR056w - yeast (Saccharomyces cerevisiae)>GP:SC9499X_12 S;cerevisiae chromosome XVI cosmid 9499; Unknown; YP9499;12, unknown, len:338, CAI: 0;12, similar to S44455, transcription factor BTF2 chain p34, (29:3% identit	0.64
SL197m13	AF003134	Caenorhabdilis elegans cosmid AF003134 ZC581.	0.99	«NONE»	«NONE»	kNONE,
SL19717	U43400	Human herpesvirus-7 (HHV7) JI, complete virion genome.	0.99	<none></none>	<none></none>	<none></none>
SL1917	V00073	Sindbis virus sequence complementary to 26S messenger RNA.	3.2e-09	<none></none>	<none></none>	«NONE»

TABLE 2

The second second		BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq. Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(V)
SL201m13	AB001684	Chlorella vulgaris C-27 chloroplast AB001684 DNA, complete sequence.	0.0013	SIU05069_1	Simian immunodeficiency virus SIVRhE543 clone 5-4 envelope glycoprotein (env) gene, V1 region, partial cds	1.0
SL20117	AB001684	Chlorella vulgaris C-27 chloroplast	0.0014	HUMLTBP_1	Homo sapiens (clone H 4;4) latent transforming growth factor- beta binding protein (LTBP-1L) gene, partial cds; Latent transforming growth factor-binding protein	1.0
SL204m13	Z49910	Caenorhabditis elegans cosmid F44G4, complete sequence.	1.0e-11	CEF44G4_1	Caenorhabditis elegans cosmid F44G4, complete sequence; F44G4:1; Similarity to 35;1KD hypothetical yeast protein (Swiss Prot accession number P38805); cDNA EST CEMSE65F comes from this	5.69-72
SI-20417	249910	Caenorhabdilis elegans cosmid F4464. complete sequence	9 34-12	CFE44G4 1	Caenorhabditis elegans cosmid F44G4, complete sequence; F44G4;1; Similarity to 35;1KD hypothetical yeast protein (Swiss Prot accession number P38805); cDNA EST CEMSE65 comes from this	9 30.71
SL 28m13	<none></none>	<none></none>	<none></none>	<none></none>	<none></none>	<none></none>
SL2817	Z84469	Human DNA sequence *** SEQUENCING IN PROGRESS *** from clone 390013; HTGS phase 1.	2.98-53	<none></none>	<none></none>	<none></none>
SL29m13	AC004465	Homo sapiens 12q24 PAC RPCl3- 363l18 (Roswell Park Cancer Institute Human PAC library) AC004465 complete sequence.	3.3e-09	MCRA_METFE	METHYL-COENZYME M REDUCTASE ALPHA SUBUNIT (EC 1.8)-GP:MFMCRC_5 M;fervidus methyl coenzyme M reductase component C genes mcrA, mcrB, mcrC, mcrD, and mcrG, complete cds; Methyl coenzyme M reductase alpha subunit	0.95
SL2917	AC004465	Homo sapiens 12q24 PAC RPCI3- 363118 (Roswell Park Cancer Institute Human PAC library) AC004465 complete sequence.	0.97	MCRA_METFE	METHYL-COENZYME M REDUCTASE ALPHA SUBUNIT (EC 1.8)>GP:MEFMCRC_5 M;lervidus melhyl coenzyme M reductase component C genes mcrA, mcrB, mcrC, mcrD, and mcrG, complete cds; Methyl coenzyme M reductase alpha subunit	0.97

TABLE 2

	Blast	stN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq.						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(V)
SL4M13	D42085	Human mRNA for KIAA0095 gene, complete cds.	2.0e-27	HUMKIAAP_1	Human mRNA for KIAA0095 gene, complete cds; KIAA0095 gene is related to S;cerevisiae NIC96 gene	3.6e-12
SL54m13	Z68694	Human DNA sequence from cosmid cU177E8, between markers DXS366 and DXS87 on chromosome X.	4.96-28	HUMF8L1A_1	Human factor VIII gene L1 element insertion DNA; Unknown protein; ORF; putative	1.29-12
SL6117	AB001684	, 00	0.00083	AF004841_1	Homo sapiens CDO mRNA, complete cds; Immunoglobulin superfamily member; contains libronectin type III-like domain	1.0
	•					i.
SL6217	AC004153 2	26 unordered pieces.	1.0	<none></none>	<none></none>	V V V
S. 188013	AC004157	*** SEQUENCING IN PRUGHESS *** Plasmodium falciparum 3D7 chromosome 12 PFYAC293 genomic sequence; HTGS phase 1, 18 unordered pieces.	0.00071	«NONE»	<none></none>	<none></none>
		10 o				
SL6817	AJ226619		0.064	<none></none>	<none></none>	KNONE NONE
		H.sapiens CA/GT repeat			Borrelia burgdorferi (section 65 of 70) of the complete genome; Competence protein F, putative; Similar to GB:M59751 SP:P31773 PID:1573409 percent identity: 27;00; identified	
SL69m13.fsa	Z22789	polymorphism sequence.	1.9e-22	AE001179_2	by sequence	0.
		Plasmodium falciparum DNA *** SEQUENCING IN PROGRESS *** from contin 3-55, complete			Borrelia burgdorferi (section 65 of 70) of the complete genome; Competence protein F, putative; Similar to GB:M59751 SP:P31773 PID:1573409 percent identity: 27:00; identified	
SL6917	AL010138		0.21	AE001179_2	by sequence	1.0
SL75m13	AC002536	Human Chromosome 11 pac SpDJ1075/20, complete sequence.	1.0	BTRNAT3_1	B;taurus mRNA for complete thrombospondin	0.0074

TABLE 2

	Blas	BlastN vs. Gb (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name			•			
and/or Other Seq.				٠	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	300
Name.	Accession	Hit Description	P S	Accession	Hit Description	2
		Buchnera aphidicola UDP-N-				
		acetylmuramate: L-alanine ligase				
		(murC157), D-alanine: D-alanine	-			
		ligase (ddiB), cell division protein				
		(ftsA), cell septation protein (ftsZ),				Ļ
SL7717	AF012886 and	and pfs genes, complete cds.	0.40	<none></none>	<none></none>	KNONEY
		Caenorhabditis elegans cosmid				111011
SL86m13	06269Z	F33C8, complete sequence.	0.020	<none></none>	<none></none>	V V V V V V V V V V V V V V V V V V V
		Acanthonevra sp. 16S ribosomal				
		RNA gene, mitochondrial gene	-			
	•	encoding mitochondrial RNA, partial			L. C.	
SL8617	U39368	sequence.	0.054	<none></none>	<none></none>	XNONEY I
SL90m13	<none></none>	<none></none>	<none></none>	<none></none>	<none></none>	Y V V V V V V V V V V V V V V V V V V V
		P.falciparum complete gene map of			Shigetta sonnei DNA for 26 ORFs, complete	!
Si 94m13	X95276	plastid-like DNA (IR-B).	0.0096	SHFORF_1	cds; ORF1	0.15
					X-linked retinopathy protein (C-terminal, clone	
					XEH.8c) - human (fragment)>GP:S58722_1 X-	
		Human DNA sequence			linked retinopathy protein (3' region, clone	
		SEQUENCING IN PROGRESS ***			XEH;8c) [human, mRNA Partial, 390 nt]; This	
21 9417	AI 022313	Al 022313 from clone 1119A7; HTGS phase 1. 6.0e-18	6.09-18	A46010	sequence comes from Fig; 5	5.79-07
200	1 750000					

CLAIMS -

WE CLAIM:

- 1. A method of diagnosing cancer, tumor progression, hyperproliferative cell growth or accompanying biological and physical manifestations comprising:
- (a) providing a polynucleotide probe that comprises a sequence capable of hybridizing to any one of the sequences shown in SEQ ID NO:1-339 or complement thereof;
- (b) contacting a biological sample for diagnosis with said probe under hybridizing conditions that permit formation of a duplex; and
 - (c) determining the presence of said duplex.
- 2. The method of claim 1, wherein said polynucleotide probe comprises at least eight contiguous nucleotides of any of SEQ ID NO:1-339 or complement thereof.
- 3. The method of claim 2, wherein said polynucleotide probe comprises 8 contiguous nucleotides of the sequences of the clones selected from the group consisting of SL-5, SL-6, SL-9, SL-11, SL-13, SL-68, SL-69, SL-86, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, SL-177, SL-195, and SL-197.
- 4. A method of diagnosing cancer, tumor progression, or hyperproliferative cell growth comprising:
- (a) providing an antibody capable of binding to a polypeptide encoded by any one of SEQ ID NO:1-339 or complement thereof;
- (b) contacting a biological sample for diagnosis with said antibody under binding conditions that permit formation of an antibody-polypeptide complex; and
 - (c) determining the presence of said complex.
- 5. The method of claim 4, wherein said antibody is capable of binding to a polypeptide comprising at least six contiguous amino acid of a polypeptide encoded by any one of SEQ ID NO:1-339 or complement thereof.

- 6. The method of claim 5, wherein said polypeptide comprises at least six contiguous amino acids of a polypeptide encoded by any one the sequences of the clones selected from the group consisting of SL-5, SL-6, SL-9, SL-11, SL-13, SL-68, SL-69, SL-86, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, SL-177, SL-195, and SL-197.
 - 7. A diagnostic kit comprising:
- (a) a diagnostic reagent comprising a polynucleotide probe that comprises a sequence capable of hybridizing to any one of SEQ ID NO:339 or complement thereof when said sequence is present in a test biological sample;
 - (b) a normal biological sample; and
- (c) instructions for detecting differences that exist between the levels of duplexes in said test biological sample as compared to said normal biological sample.
- 8. A method of treating a mammal with cancer, tumor progression, hyperproliferative cell growth or accompanying biological and physical manifestations, said method comprising administering to said mammal a composition that comprises a therapeutically effective amount of a polynucleotide comprising a sequence capable of hybridizing under stringent conditions to any one of SEQ ID NO:1-339 or complement thereof.
- 9. The method of claim 8, wherein said polynucleotide comprises at least eight contiguous nucleotides of any of SEQ ID NO:1-339 or complement thereof.
- 10. The method of claim 9, wherein said polynucleotide is an antisense construct.
- 11. The method of claim 9, wherein said polynucleotide is a ribozyme construct.

- 12. An isolated polynucleotide selected from the group consisting of:
- (a) a polynucleotide comprising the nucleotide sequence of any one of SEQ ID NO:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
- (b) a polynucleotide encoding a variant of the polypeptide encoded by (a); and
- (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of at least one of sequences of (a).
 - 13. A vector comprising the polynucleotide of claim 12.
 - 14. A host cell comprising the vector of claim 13.
- 15. A composition comprising a polypeptide, wherein the polypeptide is selected from the group consisting of:
- (a) a polypeptide encoded by any one of the polynucleotides of claim 12, and
 - (b) a variant of the polypeptide of (a).

Sequence Range: 1 to 1383

10 20 30 40 50 60 60 TTA CTC ACT ATA GGG CTC GAG CGG CGC GGG CCC GGG CAG GTC TAA AAA TAA AAT GAC AGT TTG AAC ATA CAA AAT GAG TAA CCC GAG CTC GCC GGG CCC GGC CCC GTC CAC ATT TTT ATT TTA CTC TCA AAC TTG TAA GTT CCC GAG CTC GCC GGG CCC GTC CAC ATT TTT ATT TTA CTC TCA AAC TTG TAA GTT CCC GCC GCC GCC CCC GCC CCC GCC CCC ATT TTA CTC TTA CTC TCA AAC TTG TAA GTT CCC GCC GCC GCC CCC CCC GCC CCC GCC CCC CCC GCC CCC C AAC CCA CCC CAT TCC TAT AGA GCC TAG TAC TAC ACT ACC CCC TCC CAA CTT TAG CCT CCA CAT ATA GTA
TTG GGT GGG GTA AGG ATA TCT CGG ATC ATG ATG TGA TGG GGG AGG GTT GAA ATC GGA GGT GTA TAT CAT

V W G M G I S G L V V S G G G L K L R W M Y Y 140 150 160 170 180 190 200

ATG TGC TTG GAA CAC AAA AAA CAC TTC ATA AAT TGT GCT GAA TGA AAT CAT TTC CAT GAG TGT TTA TGG
TAC ACG AAC CTT GTG TTT TTT GTG AAG TAT TTA ACA CGA CTT ACT TTA GTA AAG GTA CTC ACA AAT ACC
<H A Q F V F F V E Y I T S F S I H E H ATT TTG AGT TCA TTT GTA CCT TTT ACC TAA AAT TCT AGC CAC TTT AAT TTG GAG AGT TTC CAG AGC AAA
TAA AAC TCA AGT AAA CAT GGA AAA TGG ATT TTA AGA TCG GTG AAA TTA AAC CTC TCA AAG GTC TCG TTT 350 360 370 380 390 400 410
GCA TAA CAA CGC TTT GCG TAT ACA GCA ACC AAT ATC TTG TCA ACC CAA GAA AGT TCC TCC ATT GAT ACC
CGT ATT GTT GCG AAA CGC ATA TGT CGT TGG TTA TAG AAC AGT TGG GTT CTT TCA AGG AGG TAA CTA TGG 440 460 TAG TAG AAA TAG CCC AGT TIT TAA AGT CCT CAA AAC TGT AAC AAA TITA CTT GTT TIT AAA ATT TAA CTT ATC ATC TIT AIC GGG TCA AAA ATT TCA GGA GTT TIG ACA TIG TIT AAT GAA CAA AAA TIT TAA ATT GAA AAA TTA ATA CAA TCA GAT TTT TGT GTT ATT TGG GTA TTA GAG TAT GTT AAA GCA CAT ATA TCC CAG AGA
TTT AAT TAT GTT AGT CTA AAA ACA CAA TAA ACC CAT AAT CTC ATA CAA TTT CGT GTA TAT AGG GTC TCT 580 CAT AGA GTT TCC GTT TCA AAA AGT CAT GCA TTC ATG TGT GCT AAT GAC AAT CCT ATC CTG ACC CGC TAT GTA TCT CAA AGG CAA AGT TTT TCA GTA CGT AAG TAC ACA CGA TTA CTG TTA GGA TAG GAC TGG GCG ATA 630 640 650 660 670 680 690 GTG ACT TGT AAC CCA TAG GCT TTC CTG AAT TTT ATC TGT TAA TTT AAC CCT GAT TTC TCA GCA CAC TGA ACA TAG AGA TTT GGT ATC CGA AAG GAC TTA AAA TAG ACA ATT AAA TTG GGA CTA AAG AGT CGT 700 710 720 730 740 750

GCA GCT TCT TGT AAA TAG ACT TGC CTC TTC TGT GTC TGA CCT CTG CTC CTC ATA ATC AGA TTA ACT
CGT CGA AGA GAA ACA TTT ATC TGA ACG GAG AAG ACA CAG ACT GGA GAC GAG GAG TAT TAG TCT AAT TGA CAG ATA AAG CTG CTT CAG GGA AGA GGT CAA AAC CGT TGC CAA AAA TAG TAG TTG CCC TAC TTC AGT CTA
GTC TAT TTC GAC GAA GTC CCT TCT CCA GTT TTG GCA ACG GTT TTT ATC ATC AAC GGG ATG AAG TCA GAT TIT TOA ACA GAG TAG COA GGA GAT COT GIT CAC ACC AAA GTC CAA TOA GCC CTA CTG TTA GCA CTC TGC AAA AGT TGT CTC ATC GGT CCT CTA GGA CAA GTG TGG TTT CAG GTT AGT CGG GAT GAC AAT CGT GAG ACG 900 910 920 930 940 950 960 TCA CAA GCC TCC AGT GGC TTC CGA CCT CAC TCA CAG TAA AAG CCA AGT CAT CCT TTA GCC TAT GAT GTC AGT GTT CGG AGG TCA CCG AAG GCT GGA GTG AGT GTC ATT TTC GGT TCA GTA GGA AAT CGG ATA CTA CAG 1000 1010 CTA CAT GAT TTG AAT TCC CTT CCA TTG ATT TTT GTC ACT GAT TTT TAA AAA TCC AAA TTC ATT CTC ATA GAT GTA CTA AGG GAA GGT AAC TAA AAA CAG TGA CTA AAA ATT TTT AGG TTT AAG TAA GAG TAA CAG CTG AAT TGT CCT CTT TGC TTT AAG TAT GCC AGG ATT ATT TCT ACC TCA GGG CCT TTG CAC TTG ATA GCC GGA CTTA ACA GGA GAA ACG AAA TTC ATA CGG TCC TAA TAA AGA TGG AGT CCC GGA AAC GTG AAC TAT 1150 THE CET TEA CET TIT CEA AGA TAG TITA TITE CET CAC CITE AGT CAA GEE TIT ATT TAG ATG CEE CET TET AAG GGA AGT GGA AAA GGT TET ATT AAT AAG GGA GTG GAG TEA GTT CGG AAA TAA ATC TAC GGG GGA AGA 1180 1190 1200 1210 1220 1230 1240 CAT CAA GGC ATT CTC TGA TCT CCT TAT TTA AAT GTA TGA CAC CCC TTC TTT GCT TTA CAT TTA ATC AGA GTA GTT CCG TAA GAG ACT AGA GGA ATA AAT TTA CAT ACT GTG GGG AAG AAA CGA AAT GTA AAT TAG TCT 1270 1280 1290 1260 ACA TGT GTC ACT ATC TAG CAT ATA ATA CAT TTG CTT GAC CTC TTT TGT TTA CTG TCT ATG CCT CCT GAA TGT ACA CAG TGA TAG ATC GTA TAT TAT GTA AAC GAA CTG GAG AAA ACA AAT GAC AGA TAC GGA GGA CTT THE TOT GTA AGE TEE ACG ATA CAG GEA CTT TTE TET ATT TEG AGE ACT GTT GTA TTA CAG AGE CTT AAA ATG ACA CAT TEG AGG TGE TAT GTE CGT GAA AAG AGA TAA AGE TEG TGA CAA CAT AAT GTE TEG GAA TTT

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Sequence Range: 1 to 1815
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10 20 30 40 50 60 ACT TTT TGT TCA TTT TGA TIT TTG GAT AAT GCA AAA ITA TAG ATT TTT TAA AAA TTA TAT TCA AAG AAT TGA AAA ACA AGT AAA ACT AAA AAC CTA TTA CGT TTT AAT ATC TAA AAA ATT TTT AAT ATA AGT TTC TTA 0 80 90 100 110 120 130
ACT GAG TGC AAG ACA ATC TTT CTA GGT TAA AAA ATA TCT TAT AAA CCT GAA TTG TCA ATT ATT ATT GTA
TGA CTC ACG TTC TGT TAG AAA GAT CCA ATT TTT TAT AGA ATA TTT GGA CTT AAC AGT TAA TAA TAA CAT 140 150 160 170 180 190 200
TCC CAG ATG TAT GGA AGT TAA TGG ATA GTC AGT AAC ATA CAG GAC TAG CAG AAG GTT TGT TGT TAT AGG
AGG GTC TAC ATA CCT TCA ATT ACC TAT CAG TCA TTG TAT GTC CTG ATC GTC TTC CAA ACA ACA ATA TCC 210 220 230 240 250 260 270
TAA TCT GGA GAG AAG CCA GGT AAG TGG AAT TTG GGA TTT GCT GCT GTT GCC AGA AAG CAC AGA CAC ATT AGA CCT CTC TTC GGT CCA TTC ACC TTA AAC CCT AAA CGA CGA CGA CGG TCT TTC GTC GTG TCT CTG 280 290 300 310 320 330 340

ATG GTA AGT GGC AAG ACC CAG GTA ACT AAA ACA ACC ATG TCT TAG TCC TTT TAT GCT GTA ACA GAA
TAC CAT TCA CCG TTC TGG GTC CAT TGA TTT TGT TGG TAC AGA ATC AGG AAA ATA CGA CGA CAT TGT CTT 350 360 370 380 390 400 410
TAT CAC AGA CTG AGT AAT TTA TAA TGA ACA GAA CTT TAT TTG TCT TCT GGT TCT GGA GAC TGG GAA ATC
ATA GTG TCT GAC TCA TTA AAT ATT ACT TGT CTT GAA ATA AAC AGA AGA CCA AGA CCT CTG ACC CTT TAG 420 430 440 450 460 470 480
TAA GAG CGT GGC ATT GAC ATA TGG TGA GGG CAT TTG TGC CTC ATC ATC CCA TGA CAG AAG ATG GAA ATG
ATT CTC GCA CCG TAA CTG TAT ACC ACT CCC GTA AAC ACG GAG TAG TAG GGT ACT GTC TAC CTT TAC 490 500 510 520 530 540 550
CAA GAG AGC TCA AAA GCA AGA GAG CAA ATG GGG CCA AAC TTG CTT TTT ATA ACA AGC CAC TCT TGT GAT
GTT CTC TCG AGT TTT CGT TCT CTC GTT TAC CCC GGT TTG AAC GAA AAA TAT TGT TCG GTG AGA ACA CTA 560 570 580 590 600 610 620 AAT GAA CCA ACT CAA ACA ATA AAG ACA TAA ATC CAT TCA TGA GGG CAG AGC CCT CAA GGA TGA ATC ACT TTA CTT GGT TGA GTT TGT TAT TTC TGT ATT TAG GTA AGT ACT CCC GTC TCG GGA GTT CCT ACT TAG TGA 630 640 650 660 670 680

TCA CTT CTT A ATG GCC TCA GCT TCT AAT ACC ATC ACA ATA GTA ATT CAG TTT CAA CAT GGG TTT TAT AGT GAA GAA TT TAC CGG AGT CGA AGA TTA TGG TAG TCT TAT CAT TAA GTC AAA GTT GTA CCC AAA ATA M A S A S N T I T I V I Q F Q H G F Y> 590 700 710 720 730 740 750

AGG GAC GTT GGA ACC ACA GCA AAC TGT AAC CAT TTT GAT TTC CTT ATT TGC ACC ATT TTA AAA AAA CCT
TCC CTG CAA CCT TGG TGT CGT TTG ACA TTG GTA AAA CTA AAG GAA TAA ACG TGG TAA AAT TTT TTT GGA
R D V G T T A N C N H F D F L I C T I L K K P> 800 ATT TAT TTA ACG ACT GTT TAT TCA GTG CCT ATT CTG TTG TGT TGG GGA CTA GAG GTA ATT ACA AAG GGA THA ATA ACT TEC TEA CAA ATA ACT CAC GER TAA GAC ACA ACC CCT GAT CTC CAT TAA TET TTC CET I Y L T T V Y S V P I L L C W G L E V I T K G> 830 840 850 860 870 880 890

ATA AGA CAA ACA GTC ACC CAC TCT GGT GAT GCT TCC CTT ATC TTC ATA ATG CAT TTG ATC CTG TG ATT
TAT TCT GTT TGT CAG TGG GTG AGA CCA**CTA CGA AGG GAA TAG AAG TAT TAC GTA AAC TAG GAC AC TAA

I R Q T V T H S G D A S L I F I N H L I L> 920 930 940 910 CTT TGG CAC ATG AGT CCA TTG CAT CTT GCA TAT TAG TGT CCA GTA AGT TTT TCC TGA CCA ATT GAT AAT GAA ACC GTG TAC TCA GGT AAC GTA GAX CGT ATA ATC ACA GGT CAT TCA AAA AGG ACT GGT TAA CTA TTA 1060 1070 1080 GTC TCA GAA AAA TAC AGA AAA TGG TTA AAG ACA GGA GGA TAC TAC CCT GAT TTC TCT GTT CAT TAA AGA CAG AGT CTT TTT ATG TCT TTT ACC AAT TTC TGT CCT CCT ATG ATG GGA CTA AAG AGA CAA GTA ATT TCT 1110 1120 1130 1140 1150 1160 1170

ACA GCT ATT TGG GGG GAA AAC CTG ATA CAA TTA TTT GAG CAT GTG GCT TAA AGA TTA GAC CTA TAA ACA
TGT CGA TAA ACC CCC CTT TTG GAC TAT GTT AAT AAA CTC GTA CAC CGA ATT TCT AAT CTG GAT ATT TGT 1200 1210 1190 ATT CAG GAG CAT CTT CCA GCA AAC TGT GTG AGA ATT CAC AGA AAT AAA CCT GGT AGG TTT GTG CTA TGT TAA GTC CTC GTA GAA GGT CGT TTG ACA CAC TCT TAA GTC CTC GTA GAA CAC GAT ACA TAT TCA CAT GGG CTG TTA ACT CTT TTC CAT TCC TAG GTC CTT TAT TTC CCT GCC CTC CTC AAT CTC ATG ATA AGT GTA CCC GAC AAT TGA GAA AAG GTA AGG ATC CAG GAA ATA AAG GGA CGG GAG GAG TTA GAG TAC 310 1320 1330 1340 1350 1360 1370 CTC TTG AGA TTT TTA ACT ATA TTA CTT CTT TAC AAA GTC ATC TTC AAA ATG ATT CAT TTT GGA TAG CAA

SL5 Immunohistochemistry Comparison of Tumor vs Normal

	-	2	3	4	5	9	7	8	6	9
¥	Adrenal	Adrenal	Adrenal	Ovary	Ovary	Ovary	Ovary	Breast	· Breast	. Breast
Tumor	(+4)	(++4)	(+2)	(++4)	(++4)	(+4)	(++4)	na	(+4)	(+1)
S	÷	·	(·)	wp	(-)	(-)	(-)	na	•	(-)
Normal	(+2)	(+2)	(+2)	(+1)	(+1)	na		(++1)	na	na
S	Ξ	€	€	(-)	(-)	ьп		(-)	na	na
m	Colon	Colon	Colon	Colon	Prostate	Prostate	Prostate	Prostate	Uterus	Cervical
Tumor	(++4)	(++4)	(+++4)	(+4)	(+2)	(++3)	(+3)	(++3)	(++4)	(+2)
SC	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	Ξ
Nonnal	(+2)	(+1)	(+2)	(++3)	7	(++2)	(+1)	(++2)	(+2)	(++2)
S	Ξ	(-)	(·)	(-)	(-)	(-)	(·)	(·)	(-)	(-)
ပ	Kidney	Kidney	Kidney	Kidney	Pancreas	Pancreas	Pancreas	Pancreas	Lelomyo-	Lelomyo-
Tumor	(+4)	(+4)	(+4)	(++4)	(++++)	(++4)	(++4)	(+++4)	(+4)	(++4)
NC	(-)	(-)	(-)	(-)	(-)	(-)	(·)	(-)	EDG	EDG
Normal	۷	٤			(+1)	(+1)	(++2)	(+1)		
NC	:	(-)			(-)	(-)	(-)	(-)		
o	Liver	Liver	Liver	Stomach	Stomach	Stomach	Lymphoma	Lymphoma	Lymphoma	Lymphoma
Tumar	(+4)	(+4)	(++4)	(-)	na	eu	(+4)	(+2)	(+2)	(+1)
N	(-)	(-)	(-)	(-)	na	เกล	(-)	(-)	(-)	(:)
Normal N	na	na	eu	เกล	na	na	(+1)	(+1)	7	•
NC	na	na	na	กล	÷	(-)	(:	na	€	€
E	Seminoma	Seminoma	Seminoma	Thyroid	Thyroid	Thyroid	Thyroid	Fibro-	Fibro-	. Flbro-
Tumor	(+3)	(+4)	(++4)	(++4)	na	na		(+4)	(+4)	(++4)
NC	(-)	(-)	:	EDG	dw	EDG	EDG	(-)	€	Ξ
Normal	(++3)	(+1)	(+2)	(+1)	(+1)	(++2)	Œ	•	purk(+)	(+2)
NC	(-)	(:)	(-)	(-)	Ξ	€	Ξ	Ξ	€	na
ш	Melanoma	Melanoma	Melanoma	Chorio-	Carcinold	Chorio-	Basal Cell	Basai Cell	Basal Cell	Germ Cell
Tumor	(+++4)	(+4)	(+++4)	(+4)	(+4)?	(+1)	(++3)	(+3)	(+1)	(++4)
NC	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	EDG
- Normal							(+1)	(++1)		(+1)
- NC							·	÷		(-)

Staining Intensity: -, no staining; + weak; ++ medium; +++ strong staining Staining Percentage: 1: 0-25%; 2: 26-50%; 3: 51-75%; 4: 76-100% For example: (++3) stands for 51-75% of cells have medium staining NC: Negative Control; na: no tissue materials on slides

FIGURE 3

840 900

960 1020

1024

SEQUENCE LISTING

```
<110> Zhang, Jimmy
Astel, Jon H.
                              Carroll III, Eddie
                              Endege, Wilson O.
                              Ford, Donna M.
                              Monahan, John E.
                              Schlegel, Robert
                              Steinmann, Kathleen E.
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ctnatgccta naatcccagn acttggggag gccnaggatc tcctntntgg tggatcactt
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gcaggtnaag aaccatgggg anccaaaagg ccagctaaaa gggcccggga acccggaaaa
                                                                       840
aaggecengt tggttggegt tttttcanaa ggttccgcc ccttqaccqn nqcnttacaa
                                                                       900
aaattnggag gcnttaaggt cnnaantggg ggaaaccccc cgggaaattt caggntnccc
                                                                       960
nggggtttcc cctgggaagt tncttngggg gctttccnnt tcnaaacctg gcgnttaccg
                                                                      1020
                                                                      1024
      <210> 11
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 11
gtnegtetag atgeatgete gageggeege cagtgtgatg gatatetgea qaattegeed
                                                                        60
ttgageggee geeegggeag gtaegegggg gggeatttee etgaegaete gtgtgtgeeg
                                                                       120
tgggggagcg gtagatggcc cagccccaag tgttccqatc ttcctqccca aacatattct
                                                                       180
gtgacggaaa gcctatgttg acctcgtccg gcactcaagg cgtgggcagc ggcctaacgt
                                                                       240
ctgctgcggg aacacagtcg cgttgaatgc tattctcaag acagacaaaa cagtgggaag
                                                                       300
acactacgcc aagetgctaa etecetggcc attgeeggac tettteacce ecatggactt
                                                                       360
teegetggea ttttaaacaa cataqtttet tttetetqte tetttetett tetetetete
                                                                       420
tttctctttc tctctctctc tctctctct tctctctctg tcaatctcat aatttctctc
                                                                       480
tetegtgeca egiteceace caaegetete tegeceacti etaetgggge ecaetteete
                                                                       540
tectgetete tetgteteaa egtgattgae tttettgtge tgeecaggae ttettgeeca
                                                                       600
cgtgcgcctt caaaacggta agagctgcaa ctgaacgtgt ganacatggt gcagataggc
                                                                       660
tgagaggeng egggaaaaat geecatgaaa etcaaagtae teengeegge gancaegeta
                                                                       720
angggngant ttcaagcaca nntggcgggc cgttactaan tqqattcqaa cctccqqtac
                                                                       780
caaaagettg ggcgttaatc atgncaanaa gccgttttcc ngtnttaaat ttgttnance
                                                                       840
geteananat tecanacaan enattaenan geegggaaan eeaanaaagt tgttaaaace
                                                                       900
ctgggggttg ccnnaatgan ttgangctaa ntccnnttta atttncnttg cnccnaangg
                                                                       960
coggittitic cattogggaa acctginogi nocaanotgn attianiqua togggaaaac
                                                                      1020
tccc
                                                                      1024
      <210> 12
      <211> 957
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(957)
     \langle 223 \rangle n = A,T,C or G
      <400> 12
actititit tittitit tittitit tittitagett tattitiatt gitgacacta
                                                                        60
ttacagatag aatgaccaca accatattaa caaaccaaaa acctgtgcac agaaacaaqa
                                                                       120
tgaagaaaat atatcaagat gttaaccaca ctctttggat ggtgaaaaca tgggtgagtt
                                                                       180
tetettetae atttetgtaa etteaaagtt tetataatga acacatttea tatataatgg
                                                                       240
aaatatatgt agtaaaggtg gactaccaaa acactagaat gatgaccttt caaggaaacc
                                                                       300
gaaacaaaat aaccataatc ccacaacaac cacacaacta tttcttgttt ttcatctttc
```

```
420
ttcccatctt tgacatttat gcatacttat cactaacacc ctaataatca cagactagtg
cacaqatcaa qatqttaaca qttaattqtt qttgggtgtt qqqaatatqt qtqaattttc
                                                                        480
                                                                        540
tttactgaat ttccaaagtt ttgtatgagt atgtantata tttgtaatgg aaaatacata
cataagaatt tantaccaaa nacaccaaag attatttaag gaatttgaga caaaaatatt
                                                                        600
tanccaaatt cccacaatga caacaccaan tttaggtant ttccacatct ntttcaaatt
                                                                        660
taanqqcttt anqcacacat attttaacac tggtanccac aaqcnqtqtt qcnccqqaan
                                                                        720
                                                                        780
caanngntng agggaaacca ggtncaagga tggtnancan taagttgtta anggggttgg
gaanannggn aattttttaa aacanattta chttaanttt ccaagttttn ccnccgggga
                                                                        840
anntttttng gccaccaatg ggggnncccc nttatanccn ngtnanccgg ggacattttt
                                                                        900
tnnnggggaa atttnganaa atttagagtg ngaaangntt tttacccaan agtnccn
                                                                        957
      <210> 13
      <211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1020)
      \langle 223 \rangle n = A,T,C or G
      <400> 13
gtgngtctag atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                         60
ttcgagcggc cgcccgggca ggtacccagg attcaaaagt catcttcccc ggcgggaggc
                                                                        120
aagggacgct tatggagaac ctcttaaaga tattgtgagc attctactca ttacttaggg
                                                                        180
aaagagagcg ggtgttggtc caactctggc ttttgtgcca ggtaggagtt ggtcctgagg
                                                                        240
cegeceatet gaccatactg gacctgtttt aaggttttte tetaaaaaaa ttttagattt
                                                                        300
gtcaatctgt gctcctgcag gggatgctat gtccaaatgt cccaggattt gttttttct
                                                                        360
gtctttcctg agacattccc tgcccagcta cccaaggaat ccttcaaacg agcaaatctg
                                                                        420
accatatett etatggteag attaaaatet teeatggete eetattgett atgggacaaa
                                                                        480
atcaaaattc ctgagtctgg tctaaaaggt gtttgatgat cttgacctgc tgactttgcc
                                                                        540
                                                                        600
ageettettg teagactete gtgteatget eegeetagae tatgageetg etattteata
ctatgtaget tigtaaagte ceagaaaatg etgggetetg actetittat aactitacat
                                                                        660
atactgttcc atctgcctgg aatgccttct acttgtctgt ccagcaaatt ctcaactcat
                                                                        720
ctcttaaqqq cccaqcttca attqccqcct cctancataa qtcttccctt gatttcccan
                                                                        780
gcagnaatta nntcccgcgt accccgggga ntcccaatca gtttgtgctt tcaaaactga
                                                                        840
tggnnngact tccctqaaat ttgggttacc ncaaaacgaa atgggtgaat ccnnttcccc
                                                                        900
cgggggggct gcaattgcac ccttttttaa aggggaaccc tgnaantccc aatggnttaa
                                                                        960
atttgacncc cttaanggen tnanttenat tgagcaactt naaaaggggt tttttttttt
                                                                       1020
      <210> 14
      <211> 1013
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1013)
      \langle 223 \rangle n = A,T,C or G
      <400> 14
gtgtcgatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                         60
gageggeege eegggeaggt accteattag taattgtttt gttgttteat ttttttenaa
                                                                        120
ngteteceet etaenagete acetgagata acagaatgaa aatggaagga cagecagatt
                                                                        180
totecttige tetengetea ttetetetga anectaggtt acceatting gggacceatt
                                                                        240
ataggcaata aacacagttc ccaaagcatt tggacagttt cttgttgtgt tttanaangg
                                                                        300
ttttcctttt tctnancctt ttcctgcaaa aggctcactc agtcccttgc ttgctcantg
                                                                        360
gactgggete eccagggeet aggetgeett etttteeatg teccacceat gageeetena
                                                                        420
ctagacaget cantaageet ggeeetteat tetgegetgt gttetteete ngtgaaaate
                                                                        480
caatacctct tacctcctct gcatgcaaag attctcaagg attgtcagac ttcaaacgta
                                                                        540
acagcagaac caccagaagg tecnataaat gcagtagtga cetteteaag etgteaggte
                                                                        600
tttaaatagg atttgggatt taatgcnatg tatttttaaa ggaaagaaat aagagttgcn
                                                                        660
```

```
agtttaaaaa tgcatgtctt ttagccaatt cagaatcctg cccccaaact tttttaaaaa
                                                                       720
gtcaagacag ataaagcttt ggggganacg gaaaaaaann gnnnaaaaaa anaaagtact
                                                                       780
tegggeggna acnaegetaa gggnnaatte ageananggg gggeegttae aagngggtte
                                                                       840
nanneceggt acnaaneett gggggtttaa caagggenaa anenggttne eggggntnaa
                                                                       900
                                                                       960
aattgttacc cgcnaaaaat tccanaaaaa natncgaacc cggaaancca taaanttntn
                                                                      1013
aancconggn ggccnaaggg agngnnnaac cccnaataaa tggnttggnc cnt
      <210> 15
      <211> 951
      <212> DNA
      <213> Homo Sapien.
      <220>
      <221> misc_feature
      <222> (1)...(951)
      <223> n = A,T,C or G
      <400> 15
accctagggc aaatactgag cagggtaaaa ttcccagaat acccactaga agcgtggaat
                                                                        60
                                                                        120
atatcaatat cctaggaaga agattcagca caccaaattt cccattactg ataacagctc
tgaaggcata ataagaaagt gagtgatcag aagagcagag aaatgacttg ttccagtcac
                                                                        180
                                                                        240
tgccatcttg tttacccttt cagtggttcc cttacccttt tccccactgg gcatacagct
catctctctc tgagtccttt tetgetttec teetttgete taaacgtteg agtttcaaat
                                                                        300
tectettacg accagaetta tetegaaata eggttteage atattgaaat teagetgeaa
                                                                        360
aggaaaatta tactcaaata tcaggatcaa aatcagaaat aacattctaa gagatcaaat
                                                                        420
caaccgcttg ggattctaat gctagataag aacttctgca gccagaccaa agtagttcct
                                                                        480
accaacatct tggtgcatat tggcactggg cccaagaaat ggcattttcc ttttttttt
                                                                        540
ttttgagatg gagteteact etgttgeeca ggttggagtg cantgggege gattttgget
                                                                        600
cactgcaacc tecacetece aaggttcaag egatteteet gtetcaagee teetgagtna
                                                                        660
                                                                        720
gctggggaat acagggcata cnacancatg cctggctagt tttttttttg gaattttggn
                                                                        780
tagagacagg ggtttcatca nggttngccc aggcctggtn cttggaactn anagaccctc
                                                                        840
aggntggatt caacccaact teegggetae caaaaggtng negngggatt acangcattt
                                                                        900
anncaacngn gccctngggc naaaatggna anttttcang aagggaaagc agcnntgggg
                                                                        951
atccenggnn naanttteac caaggeetta aaccagggne gtaaatttgt t
      <210> 16
      <211> 1008
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1008)
      <223> n = A,T,C \text{ or } G
       <400> 16
gtgcgatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt cgccctttcg
                                                                         60
agoggoogco ogggoaggta cattacttgg tgttaacatt gttggoagtg gtagcocctt
                                                                        120
ttcagaaagc aacttgctgt aagtcagggt gtccgttcca accttcagct agtgaaaagg
                                                                        180
tagtaacaaa tggtaaacaa gagaatgatt gtttaaacct atctgtggac acttaatgca
                                                                        240
actgtttaaa aatgataatc acgagttatg tagcaacgtg gaaatatatt tacagaacat
                                                                        300
taagtggaga aagcaggaca cgaaagtata tttatactac agttataact caacagttca
                                                                        360
tttatatget gttcatttaa cagttcattt aaacagttca ttataactgt ttaaaaaatat
atatgettat agteaaaage tgttgtggtg ttgttgttgt aggettatag ttgageatta
                                                                        480
ttttcttaaa tttcttgaat gttctttatg gtagtgttac taaaaagttt atgatcacat
                                                                        540
 tttcattgtg aacataattt gaactcatta tcacacactt ggaaaataca gaaaagtgga
                                                                        600
ggaaaaaaaa tcatatcccc ancatccaaa gacatatact ctcctcttat cctgttcaat
                                                                        660
 cctggtttcc ggtgcacaag gtttatgatt ataactgtgt caaaatgtat aatcaaaata
                                                                        720
getgttacat tacettggtg gnantaaggg taaatacett cacettaaat ttttcaaaan
                                                                        780
 gttcccaana ataaaggtcc ggataacagt ggtataagtg tgtcccaatt gggggtgcan
                                                                        840
 aatacattcc cangngggaa aatttnnaaa tnaagttaaa ttattttaaa aaatttccaa
                                                                        900
 aatteecaan anetaanaae taangggnaa aaaeetngat egggntneee caaaenngtt
                                                                        960
```

```
1008
taantqnnac nccttgggaa aanaagnttt aaaaanggtg gcaaaaag
      <210> 17
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
gtgnctctag atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                       120
tttnnanagg negeneggge angnantett eceneetntg ceatnannea eggnnanaan
engeagtgge actaanintg agacaatett neaaaceage tieatgtege incaetinte
                                                                       180
                                                                       240
nnngthcaag angagggcca ggangggaaa catcacanct gcgctaagnc cngntccggg
nngtcagcat nngntetgtt ncaannecen egnteggtee eeteateeta etetgeetee
                                                                       300
                                                                       360
natgaetttg enceteagae ntentggaae naaggnttee nggggggeae acegegteeg
gccgnnnntg tctcggggcc acttggcgtg tgtgataaat caatcaagct gttnanntcg
                                                                       420
                                                                       480
nacqaqtete nqqtnqcetq cananntaag ceteateate agageettte eteaaaactg
ganteceana tgteateagg ttntggttnt ttteageean naggaageee tengeattga
                                                                       540
atconagaac ttgggcatgg tnnaagatct acaagninga atacgctgcc cgcnanaanc
                                                                       600
nttcaaccct aacaggaagg tnggattcaa ggaaggtgta anggnncatt annccacncg
                                                                       660
ggggnaccaa gggagntana antanncatn nntttgggtt cgcccnccga agggnnttaa
                                                                       720
cccccggaat tnnntttnng ntnaaggggg gnnnngggna aatcccngtt cnncatttgg
                                                                       780
gaaagggann cettneettn enntnggeet ntaaaagnnt tancaanace egnnatnntg
                                                                       840
ttnanggece egnttttcaa nggggttaan nnnttngggn aaccecenne eccaaagnng
                                                                       900
                                                                       960
gnnnaanggg ggnaattece aanaaaaeng gggggnneet tnnnnnangg gnttengnnn
ccccnaaagg nnncntgggg ggnnannann gnncnaaaaa gggttcccnn nnnnaaattt
                                                                      1020
                                                                      1024
      <210> 18
      <211> 981
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(981)
      \langle 223 \rangle n = A,T,C or G
      <400> 18
acgcgggaca gagagaaggt taagagcaac aagatgggag gcagctgcat ggaacctgtc
                                                                        60
ccactgagga agtaaaacag agttttactc ttgttgccca ggctggagcg caatggtgcg
                                                                       120
atctcggctc accgcaatct ctgcctcctg agttcaagcg aggagcaacc ctacctgatg
                                                                        180
gactggactt ctgcctggat tggagtttga tcatgcctcc atatgggtgt ttaccaggcg
                                                                       240
tatgcattga acctgagttt gtctcttcaa tacaaggaaa atctctgccg cttagtgatt
                                                                        300
ttccaagaaa catgagette tgeettteaa tgaggaagat acteagaagt catgttcgag
                                                                        360
                                                                        420
cacteeggaa aatgteettg gagttteaac atttetttgg tetteeacat tteattttgt
cctgattaaa gaggaagcca agttgctgtt tgtgtggcca tgtgagcagg canggagatg
                                                                        480
                                                                        540
gtggctgcct agaagccaag agaagtggcc tcaagatgaa atctaccttg ctggtactgc
ccggggcggc cgcccgggca aggtacnttt ttttttttt gtttttttt ggcaaaaaagg
                                                                        600
                                                                        660
ctgtaaagct tttttgggga gaaattttaa tgggncaaan tttccaacac aggnagcanc
cctgaaacca attttaagcg ggtccttccc ttttaagget gtnnaattgc cccttcaanc
                                                                        720
                                                                        780
ttcctcaagg ngtttttcac cctcccnccg ggattttggn aaaggcccaa aantccntgg
gnnaanaagg gacaatctcc cgggnttaaa aaccaattnt ncggggngna accnggttcc
                                                                        840
                                                                        900
ctgggctann cncctttaan ggntnccggg gcccttttgn gggggnaatt ttcaaacggn
ncctncattt tctnaggggg naanccncct tngggtcann gggncnannn cccaagnctt
                                                                        960
                                                                        981
caaancenaa ntettttggg g
```

```
<211> 980
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(980)
      \langle 223 \rangle n = A,T,C or G
                                                                        60
actititict tittitit titticogic tococaaago titatotgic tigactitit
aaaaaagttt gggggcagat totgaattgg otaaaagaca tgcattttta aaactagcaa
                                                                      120
ctcttatttc tttcctttaa aaatacatag cattaaatcc caaatcctat ttaaagacct
                                                                      180
                                                                      240
gacagettga gaaggteact actgeattta taggacette tggtggttet getgttacgt
ttgaagtetg acaateettg agaatetttg catgeagagg aggtaagagg tattggattt
                                                                      300
                                                                      360
tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg tccagtggag
ggctcatggg tgggacatgg aaaagaaggc agcctaggcc ctggggagcc cagtccactg
                                                                      420
                                                                      480
agcaagcaag ggactgagtg aagcettttg caggaaaagg ctaagaaaaa ggaaaaccat
tctaaaacac aacaagaaac tgtccaaatg ctttgggaac tgtgtttaat gcctataatg
                                                                      540
qqtccccaaa atqqqqtaac ctagacttca gagagaatga gcanaganca nagggagaaa
                                                                      600
totggotgto ottocaattt toaatoogtn atoccaggtg aagotgggta ngagggggag
                                                                      660
ancattngna naaaaatnga aacaacanaa nccagtttac taaatnaagg gaacctgccc
                                                                      720
cngggcggc cnccaanggg ccaaatttca ancaacanng ggcgggcccg ttaccaantg
                                                                      780
                                                                      840
gnattccgaa gccncgggta accaangect nggngtnaat ccagngggnc aaanccngtt
tnccnggngt gnaaattggt tancccgccc naanaattcc acancaacga atcngaagnc
                                                                      900
                                                                      960
cgqgcnagca tnnangnnta aancccgngg ggggcncaaa agggaatgnn nccanacccn
                                                                       980
attaaatncg gttgcccctg
      <210> 20
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 20
                                                                        60
cttggtaccg ngctcggatc cctagtaacg gccgccagtg tgctggaatt cgcccttcca
tectaatacg acteactata gggetegage ggeegeeggg caggtattea geggeegett
                                                                       120
ttttttttt tttttttt attgntgaca ctattacaga tagaatgacc
                                                                       180
                                                                       240
acaaccatat taacaaacca aaaacctgtg cacagaaaca agatgaagaa aatatatcaa
gatgttaacc acacinttig gatggtgaaa acatgggtga gittcictic tacatitcig
                                                                       300
                                                                       360
taacttcaaa gtttctataa tgaacacatt tcatatataa tggaaatata tgtagtaaag
                                                                       420
gnggactacc aaaacactag aatgatgacc tttcaaggaa accgaaacaa aataaccata
                                                                       480
atcccacaac aaccacacaa ctatttcttg gttttcatct ttcttcccat ctttgacatt
tatgcatact tatcactaac accetaataa teacagacta gtgcacagat caagatgtta
                                                                       540
                                                                       600
acagttaatt gttgttgggt gttgggaata tgtgtgaatt ttctttactg aatttccaaa
gttttgtatg agtatgtatt atatttgtaa tggaaaatac atacataaaa tttattacca
                                                                       660
aaacaccaaa gattatttaa ggaatttgag acaaaatatt taaccaaatt cccacaatga
                                                                       720
caacactatt ttaggtattt tccacatctt ttcatttaag actttatgcn cncatattta
                                                                       780
acactggtat ccacaagcgt gtgccctgaa accaggatan nggggaaacn ngatcaagat
                                                                       840
gttagccagt agtttggtag gnggttggga aatataggga attttttnaa aaaaatttac
                                                                       900
                                                                      960
tttatttncn aaattttccc cttgggnaag ggattatggc nenccaangg gngccccctt
                                                                      1020
aaanacnctg gttttcngga ccttttttt nggggaccat ttggaaaaaa ttaangggga
                                                                      1024
      <210> 21
      <211> 1024
      <212> DNA
      <213> Homo Sapien
```

<220>

```
<220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 21
nagnngcang enegagegeg egecagtgtg atggatatet gengaatteg eeettentan
                                                                         60
cngnngncac thaatgcang ngcnnaacca tgataacccg agttatgctn agcanaggaa
                                                                        120
ctatatgtac agaaacatta agtgnngaaa gccnnacnch anggnanntg aatactacng
                                                                        180
tnataactna ncagaccatt nanatgetge acatttaaca nnnentnean acagnanatt
                                                                        240
ataanngnnt ananntatat atgetnatng accaaagetg tngaggggtn geegttgaag
                                                                        300
gennnnngnt nagcattanc atnttaenne acttgeetgn cetntatgge agggttacta
                                                                        360
tetttgttae tgateaegae ateantgega aentaanaen aacnenntat nacacaetng
                                                                        420
nnanageceg aategngnng gaacagtate ntntencene cancennaga catntnennn
                                                                        480
cetettaten tganeatten agnttetgtg cacagginta tgainntane ngigneaaan
                                                                        540
tgnntcttna aantanttgc cacatnacct tngaggantt atggannaan actctcactt
                                                                        600
taaancenne aanegacee nanaanactg tnetgntaac agtgeanaat gtgtgattte
                                                                        660
atagttntgc acacacatnc ccacnggaan cacaggcgtg tgcactgaac attntagagg
                                                                        720
ntacctatct gccgacacct aacactacng gtnacggcaa gatcggaacc tntaannggg
                                                                        780
ttaacncaaa cnctagggat accongggaa atatgtggcc caccgtttaa acccccgaag
                                                                        840
tgcccngtac ccnggacatt gttttcgtgn cggtanttgg gttaaanntg ggntnaaaac
                                                                        900
cctaattccc cctgggggtt tgccactaaa tttgaaggac cttttggccc tgccaaaatc
                                                                        960
annaaccctg gencanaact ttggggganc nggnnaggna gggtnnccct tttttccga
                                                                       1020
aggc
                                                                       1024
      <210> 22
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
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ageggeegee egggeaggta cttttttttt ttttttttt tttttttt tttttttag attecacata
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tgagtaaaat catgtggtat ttgacttgcc ttttaaaaca cagtgaagaa tctgtcttac
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tttattcagg gtaggagaag ctacctgggc tccccataaa tgaggtgctc catcccatca
                                                                        240
tacagececa teatatteag tgetteecag atgaceteet caggggtgea gtagecetet
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atgaagatta tgcttaggat aagtatgaga atgccagtct tgggcatgct ctggacatca
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ctcagcatcc catcataggt gaggcccagg gaggtgacaa ggacaaagga gtggccagtg
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ggatccactt cctttacatc aatgccaaag accagcagca tgcactcgga ggcttcacta
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aacaacaaag ggaagtggtc ttcataattt tttatgacac tctccaagta tttctgcctt
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tgtgatcggc tccttcattt gatacttgaa gagcagaaac tgcaccaaat cagtcacctt
                                                                        600
ticatctate teacticing graaagacte actititing aaggacetig taggitgett
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gggactecce teettttgge tgenggagne eteaneagat tgatetaatg gaagggaaac
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aacgacccna ggggaaggag cagggctatc tngagcaacn ctggggaagg atttggggtc
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nccatcatca ngcagnaaac teceteeegg gggtneettg ggnanttaaa gggatneeca
                                                                        840
ggaaggagga nqqaqqaan aqqqaqqanq agggaaaaaac naggntngga aaaagggacn
                                                                        900
cggngggaaa ttggggntta tacaccgccn ncnnnaannn ggggngagnc ngnngnccng
                                                                        960
tegnggnenn gntteenntt gggngaagnn ggnttetenn angggnegnn nnnnnnnnne
                                                                       1020
cnnt
                                                                       1024
      <210> 23
      <211> 948
      <212> DNA
      <213> Homo Sapien
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<221> misc_feature
      <222> (1)...(948)
      <223> n = A,T,C or G
      <400> 23
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aaaaaagttt gggggcagat tetgaattgg etaaaagaca tgcattttta aaactagcaa
                                                                        120
ctcttatttc tttcctttaa aaatacatag cattaaatcc caaatcctat ttaaagacct
                                                                        180
gacagottga gaaggteact actgoattta taggacotto tggtggttot gotgttacgt
                                                                        240
ttgaagtctg acaatccttg agaatctttg catgcagagg aggtaagagg tattggattt
                                                                        300
tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg tccagtggag
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ggetcatggg tgggacatgg aaaagaaggc agectaggec etggggagec cagtecactg
                                                                        420
agcaagcaag ggactgagtg agccttttgc aggaaaaggc taagaaaaag gaaaaccatt
                                                                        480
ctaaaacaca acaagaaact gtccaaatgc tttgggaact gtgtttattg cctataatgg
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gtccccaaaa tgggtaacct agacttcaga gagaatgagc agagnagcaa aggagaaatc
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tgggctgtcc ttccattttc attccgttaa cctcaaggtg anctggtaaa aggggagaca
                                                                        660
ttagaaaaaa aatgaancaa caaancaatt actaatgang tacctgcccg gggcggccgc
                                                                        720
aaagggcgaa ntccaagcac acngggcggg ccgttacaan tnggatttcg aacccggtac
                                                                        780
caaanchtgg gngtaaanca ngggncaana accggnttcc cgggggtgaa aantgtttat
                                                                        840
ccgcccaaaa attccaaaaa ancaatanga aaccggaaan cataaagtnt taaaccctqg
                                                                        900
ggggggccca aangantgag ccaaanccca attnaattgg gttggncc
                                                                        948
      <210> 24
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
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                                                                        120
atatttacag aacattaagt ggagaaagca ggacacgaaa gtatatttat actacagtta
                                                                        180
taactcaaca gttcatttat atgctgttca tttaacagtt catttaaaca gttcattata
                                                                        240
actgtttaaa aatatatatg ettatagtca aaagetgttg tggtgttgtt gttgtagget
                                                                        300
tatagttgag cattattttc ttaaatttct tgaatgttcc ttatggtagt gttactaaaa
                                                                        360
agtttatgat cacattttca ttgtgaacat aatttgaact cattatcaca cacttggaaa
                                                                        420
atacagaaaa gtggaggaaa aaaaatcata tccccaccat ccaaagacat atactctcct
                                                                        480
cttatcttgt tcattcttgt ttctgtgcac aggtttatga ttataactgt gtcaaaatgt
                                                                        540
atattcaaaa tagctgttac attacctttg tggaattatg gttaaatact ttcactttaa
                                                                        600
ttttttcaaa tgttccctat aataatgtcc tgataacagt gtattatgtg tgtctccatt
                                                                        660
ggtgtgcata atacataccc agaggaaaaa ttagaaaata aagtaaatta ttttaaaaaa
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ttacctatat tcccaacacc taacaactac tgnttaacca tcttgatctg nttcctctat
                                                                        780
cttggttcag tgcacacgct ttgngaataa cagtggttaa atatgtgtqc cataaaggcc
                                                                        840
ttaaaatggaa aagatgtggg aaaaataact taanaataag ggtggccttt ggggggaaat
                                                                        900
ttggttaaaa aattttgggc tcnaaaattc cnttaanaaa acctttgggg ggtttgggna
                                                                        960
ataaaaatnt taanggangg aatnttcccn ttccantttt nattccttcc tcttcccaaa
                                                                       1020
actt
                                                                       1024
      <210> 25
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
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tccatcctaa tacgactcac tatagggctn nagngngcca ctattnenga tngaangacc

60

120

180

<400> 25

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acngecatat taacaaacca aaaacctgtg cacagaaaca agatgaagaa aatatatcaa
                                                                        240
gatgttaacc acactetttg gatggtgaaa acatgggtga gtttetette tacatttetg
                                                                        300
taacttcaaa gnttctataa tgaacacatt tcatatataa tggaantata tgtagnaaag
gnggactacc aaaacactag aatgatgacc tttcaaggaa accgaaacaa aataaccata
                                                                        360
                                                                        420
atoccacaac aaccacacaa ctatttottg gttntcatnt ttottcccat ctttgacatt
                                                                        480
tatgcatact tatcactaac accctaataa tccagactag tgcacagatc aagatgttaa
cagttaattg cngntgggtg ttgggaatgn gcgtgaattt tctttactga atttccaaag
                                                                        540
                                                                        600
ttttgtatga gnntgtatna natttgtaan ggaaaataca tacatnaaat ttattaccaa
aacaccaaag attatttaag gaatttgaga chaaatattt aacccaaatt ccacaatgcc
                                                                       660
                                                                       720
aacactnttt taggnatttt ccacatcttt tentttaaga etttatgene eecataatgt
aacactggta tcacaaagcg tgtgcactga aaccagggat nnagggaacc gancaagatg
                                                                        780
ttnncagnag ttggtangng gatnggaaaa taggnaattt ttaaannaat tnacttttat
                                                                       840
ttccnanatn tccctttggg gatgncttat gcncccccat gggggncccc ctttanancc
                                                                        900
ctggtaatca nggccntttt ttttggggaa cttttggaaa aaanttnaag gggaangttt
                                                                       960
ttacccataa tttccccaaa ggnanggggn acnenttttt ggaanateet tinggeneet
                                                                      1020
tttn
                                                                      1024
      <210>.26
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 26
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agoggoogoo ogggoaggta ottittitit tittititt tittittiag attocacata
                                                                       120
                                                                       180
tgagtaaaat catgtggtat ttgacttgcc ttttaaaaaca cagtgaagaa tctgtcttac
tttattcagg gtaggagaag ctacctgggc tccccataaa tgaggtgctc catcccatca
                                                                       240
                                                                       300
tacagececa teatatteag tgetteecag atgaeeteet caggggtgea gtagecetet
atgaagatta tgcttaggat aagtatgaga atgccagtct tgggcatgct ctggacatca
                                                                       360
                                                                       420
ctcagcatcc catcataggt gaggcccagg gaggtgacaa ggacaaagga gtggccagtg
ggatecaett cetttacate aatgecaaag accageagea tgeactegga ggetteacta
                                                                       480
aacaacaaag ggaagtggtc ttcataattt tttatgacac tctccagtat ttctgccttt
                                                                       540
gtgatcggct ccttcatttg atacttgaag agcagaaact gcaccaaatc agtcaccttt
                                                                       600
tcatctatct cacttctggg gtaaagactc actgtctggc aggacctgta gggtgcttgg
                                                                       660
gacteteete ettttggetg etggageeet caacaagatt gatetaatgg gaagggaaac
                                                                       720
caaccnaccg aanggggang gagcaggctn ttctgaagca ctctggggga aggattttgg
                                                                       780
ngtnenenat catneagean gnaaacetee encegggggt geettggnna ttananggtt
                                                                       840
                                                                       900
agcaaggang gaggacgnag gaananggan gnangnaggg aaaaagangg attggaaaan
agggancetn ggtgggaaat tggggttttn nagcaateee cenecaaaaa nenaggggaa
                                                                       960
ccctgttcaa cccncanggc enggnttcca cttttggaat ttgaaanttt cctcaaggaa
                                                                      1020
ngaa
                                                                      1024
      <210> 27
      <211> 935
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(935)
      <223> n = A, T, C or G
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acatgtegeg geetgteaga aataggaagg ttgttgatta etcacagttt caggaatetg
                                                                        120
                                                                        180
atgatgcaga tgaagattat ggaagagatt egggeeetee eactaagaaa attegateat
                                                                        240
ctccccgaga agctaaaaat aagaggcgat ctggaaagaa ttcacaggaa gatagtgagg
                                                                        300
actcagaaga caaagatgtg aagaccaaga aggatgattc tcactcagca gaggatagtg
aagatgaaaa agaagatcat aaaaatgtgc gccaacaacg gcaggcggca tctaaagcag
                                                                        360
                                                                        420
cttctaaaca gagagagatg ctcatggaag atgtgggcag tgaggaagaa caagaagagg
aggatgagge accattccag gagaattccg gcagcgatga agatttccta atggaagatg
                                                                        480
                                                                        540
atgacgatag tgactatggc agttcgaaaa agaaaaacaa aaagatggtt aagaagtcca
aacctgaaag aaaagaaaag aaaatgccca aacccagact aaaggctaca gtgacgccaa
                                                                        600
gtccagtgaa aggcaaangg aaaattnggt cgccccacag cttcaaaggc atcaaanggg
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aaagaateen tetecaaaag aagaaagatg agggaacegg aaaaceeece agaaaaggaa
                                                                        720
aacatctana agccccccaa cccagaaatc tggggataaa ggggctgaaa aataaacccc
                                                                        780
cntttgggga agntttaaaa ttatgaangg nctggggaaa aaattttttt aaaaaannnn
                                                                        840
nnnnnnnna aaaaaanttt cctgcccggg ggggcgccnc naaaggggga anttcaanaa
                                                                        900
aaangggggc ggtttaaaaa ggggtttcca ccccn
                                                                        935
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
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                                                                        120
                                                                        180
gaaatatatt tacagaacat taagtggaga aagcaggaca cgaaagtata tttatactac
agttataact caacagttca tttatatgct qttcatttaa cagttcattt aaacagttca
                                                                        240
                                                                        300
ttataactgt ttaaaaaatat atatgcttat agtcaaaagc tgttgtggtg ttgttgttgt
aggettatag ttgageatta ttttettaaa tttettgaat gttetttatg gtagtgttae
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taaaaagttt atgatcacat tttcattgtg aacataattt gaactcatta tcacacactt
                                                                        420
ggaaaataca qaaaagtgga gaaaaaaaa tcatatcccc accatccaaa gacatatact
ctcctcttat cttgttcatt cttgnttctg tgcacaggtt tatgattata actgtgtcaa
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aatgtatatt caaaataget gttacattac etttgtggaa ttatggttaa atactttcac
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tttaattttt tcaaatgttc cctataataa tgtcctgata acagtgtatt atgtgtgtct
                                                                        660
ccattggtgt gcataataca tacccagagg aaaaattaga aaataaagta aattatttta
                                                                        720
aaaaattacc tatattcccc aacacctaac aactactgnt aacatcttga nctggttcct
                                                                        780
ctatcttggt tcaagtgcac accgcttgng aataacaagg gttaaaaatg ngngccataa
                                                                        840
aggtentaaa atggaaaagg atgtgggaaa aatnacetaa aaataggggt ggccattggg
                                                                        900
gggnaatttg ggttaaaaaa tttgggctcn aaaatncctt aaaaaaaanc ctttgggggt
                                                                       960
tttgggaaaa aaaaatttta ggggagggaa ttttccattt ccaaatntta ntccntactc
                                                                       1020
ntta
                                                                       1024
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 29
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                                                                        60
tectaataeg aeteaetata gggetegage ggtegeecag geaggtgeta aeaaaceaaa
                                                                        120
aacctgtgca cagaaacang atgaagaaaa tatatcaaga tgtaaancac actctttggn
                                                                       180
tggtgaaaac atgggtgagt ttctcttcta cntttctgcn antncanagn ttctataatg
                                                                       240
aacacatttc atatgtaatg ganntntntg tagtgnaagg tggactaccg gaacactaga
                                                                       300
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atgatgacct ttcaaggaaa ccgaancaaa ntnaccntan tcccacaana accacannac
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tattnentgg tnntnatgtt tetteceate tttgacattg atgentaett aggactancg
                                                                        420
                                                                        480
ccctaataat cccagacttn ggcacagatc aaganggtaa cnggtgattg gaggtgggtn
                                                                        540
gccggaantt ggggtgantg tintttatgg antinccann tittggtang ngattgnnna
                                                                        600
aaattngaan nggaaacnot tacttnaant tgnttaconn aacnoonagg atnttttaag
                                                                        660
gattngggc cnaaattttt acccaaattc cnncaangcc ancnctgtnt aagtcatttt
caaanttttt tcncttaaag accttaaggc cccctaaggt aacctgggaa tanaaggggg
                                                                       720
qqcacntqqn accaqqntcc naqqqaacnq nnccaaqant tttccccntt ntttgtttgg
                                                                        780
                                                                        840
gggttgggaa atnnnngnaa attttttaaa ggtaatncac ttaatttgcc aaaggaattc
ccttnggggg nggnnttatt gcncacccat gggagacccc cntaaggccc cnggaataag
                                                                        900
                                                                       960
ggcctttttt tttngggacc atttgggaaa aatttaaang ggaaggcnnt ttgnaccctt
aatttcccca aggnaaangg aaccncccnt tttgganatt gcattttngg ccccgttttt
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                                                                       1024
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      <212> DNA
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      <221> misc feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 30
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cattttgcaa atctttttt ttaaattttt taaattttat atttttttc caqccaactc
                                                                       180
aaggccaaaa aaaatttott aatatagtta ttatgcgagg ggaggggaag caaaggagca
                                                                        240
                                                                        300
caggiagtee acagaataag acacaagaaa ceteaagetg tgaggteaat tigtaattaa
aagaatacta agattagatg aacacaacac tcagaaatac tctaggagag ctgaaaaaga
                                                                        360
aggaacagat gttaacaaaa caaattaagg ctgctgggga acctgagtcc atgttaagct
                                                                        420
tgggttgact gtaaagaatt tttttttttt taatgcaagt tagacatgga gttagagggt
                                                                        480
                                                                        540
cagataaata acgaagagaa ttaagttagc gatagaaaga tctaaggata ctagctcctg
ggcacctagg gtgcaaactg acttgtggca gcataagctg atgctgcaca ggggacccaa
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gccatgttgc tacttgtcac ttaaggcang aagcgcacaa aggaagtgat gaaagggtat
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cactactggt gattcaagtg aatgggttgt aacccantcc ttaaaaggca aaggatgtta
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ggantttaca gggaaaaaag cttccggggt tttancaatt caccaatcan caaaccacat
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attgaagttt ggttaaaaaa aaaaanannn anaaaaaagt nccctcggcc gngaaacanc
                                                                       900
                                                                       960
cctaaqqqqq naaattccag canactgggn gggccgntta caaaggggtt cgaaccncgg
taccaaacct tgggggttaa ncaaggggca aaancgggtt ncccgnnggg aaaattgttt
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nccq
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      <211> 1019
      <212> DNA
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      <221> misc_feature
      <222> (1)...(1019)
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                                                                        60
ageggeegee egggeaggta ceatgetgae tiettggtat ettttaagge etaattttee
                                                                       120
cttccttgag attactgtag tgtgttccag ctaatttcta tttggaaacg agttggaaca
                                                                       180
gctgaaaact aggtattatt gaaggcaaag cagcctcacg tcagtttttt atcagctcat
                                                                       240
ttgggaagtt ttttttttt tttttttta attaattaga aagtaggctg ggcacggtgg
                                                                       300
ctcatqccta taatcccaqc acttqqqqaq qccqaqqatc tcctctctqq tqqatcactt
                                                                       360
gagggcagga gttaagagac catcctggcc aacatgatga aaccctgtct ctactaaaaa
                                                                       420
```

```
480
tacaaaaagt agctgggcgt ggtggcatac tottacaatc ccagctactt gggaggctga
                                                                        540
ggcaggagaa tcacttgaac ctaggaagca gaggttgcag tgggccaaga tcacaccact
                                                                        600
atactotago otgggogaca gaggtgggga aaaaagtagg accootgtoo tatattoagg
                                                                        660
tttttctcac atatatgaac ccatctaaat tctacgttgt taaaggtanc ttaggttaat
taagtccata cttatttaag accaatatgg ggtgaaatgg gatttttttt taaaaatcct
                                                                        720
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acagntnagg ctttccnact ttccttcnaa atgaggaaaa aaaggtgaca aaaattcaag
tgtcaatgtc ccctcctggg gaaanaggtt tanaaaaaca acaggctcaa ccttctgaac
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tnctaacaan ttcccttnga aanttaacga anccattaaa atcnngattt taaaagagga
aaanaaaaaa gttcctcggn cggnnacaan cctaagggng aaattccaca aaaanngggg
                                                                       960
ggcctttana aagnggttcc nacceggtac aaaaccttgg gnttaaccan gggccaant
                                                                       1019
      <210> 32
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
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                                                                        120
tgttgggaat atgtgtgaat tttctttact gaatttccaa agttttgtat gagtatgtat
tatatttgta atggaaaata catacataaa atttattacc aaaacaccaa agattattta
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aggaatttga gacaaaatat ttaaccaaat tcccacaatg acaacactat tttagttatt
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ttccacatct tttcatttaa gactttatgc acacatattt aacactgtta tcacaagcgt
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gtgcactgaa acaagataga ggaaacagat caagatgtta gcagtagttg ttaggtgttg
                                                                        360
ggaatatagg taatttttta aaataattta ctttattttc taatttttcc tctgggtatg
                                                                        420
tattatgcac accaatggag acacacataa tacactgtta tcaggacatt attataggga
                                                                        480
acatttgaaa aaattaaagt gaaagtattt aaccataatt ccacaaaggt aatgtaacag
                                                                        540
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ctattttgaa tatacatttt gacacagtta taatcataaa cctgtgcaca gaaacaagaa
tgaacaagat aagaggagag tatatgtett tggatggtgg ggatatgatt tttttteete
                                                                        660
                                                                        720
cacttttctg nattttccaa gtgtgtgata atgagttcaa attatgttca caatgaaaat
gtgatcatta aactttttag taacactacc aataaaggaa ccatttcaag aaaatttaag
                                                                        780
                                                                        840
gaaaaataat gotcaactat taagootaco acaaccaaca cocacaacag ottttggact
                                                                        900
attaagcnta tatattttta acnggtatta atggaactgg ttaaatgaac tggtaaaagg
                                                                        960
aaccgcatnt taaatggact ggtgnggtta taaccggtgg tataaaaana cctttggggc
ctggtttttc ccttaanggt ctgnaaanat attttcncgt ngtccanacc ncgggatatc
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                                                                       1024
aatt
      <210> 33
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
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      \langle 223 \rangle n = A,T,C or G
      <400> 33
                                                                         60
geentenaga encatgeteg ageggnegne agngtgatgg atatnnngea gagnnegeee
ttccancena atacgaenea etatagggen nnennnntng gennetttgn tgeceeteen
                                                                        120
                                                                        180
ctcgnataat anctatatta acgaaattgt nctggccttg agttggctgg agagaaatat
tnngagnnnn accngtnnnn ntnngnnatc ngtaaantgt aanagtagnt catttgaaca
                                                                        240
agcaatnatt naantaccca ctggnggaaa ngngnctgaa tcttactctt ntggatctgc
                                                                        300
aggantaggg cttgtnagta tgtcaaanat gcnnncagtg tcaangttta ngccnattgt
                                                                        360
                                                                        420
aganctngta gcaggaanch achntgangg anchncagaa nggagnccth anacathncc
agatntacga ggngagagga gacanacnga gaaagacacc ntaggnncga nctgnagaag
                                                                        480
gncaggatte tgagaatgaa ntgeneggnn agteengane agattggaaa aggagnttet
                                                                        540
```

ganggnatgg tgcacnngag ggctgacngg tangaggnac tgntgttgga acgnacatag

600

```
660
cgaaagntgn tgngcagtga ggattactac atgnngaaag gactcttgaa acgaggaact
                                                                       720
aactgtgatg ncanggctga agtttgggcn nccatacttt gnaggttaca attnttngca
                                                                       780
gtggncgncc cgtttaaana gccnttttga tggaaantca agggtgnncg gtacnacctt
                                                                       840
centttaggg nacaaggent tnecgantgg gtngecagga agaanganng cennanceet
                                                                       900
anningginggg ccccttaatn gcachgggtg aacaatgcna accctcgggt tattggaacn
                                                                       960
accgnggana anatggttac cgaaccatta ngtggggnna aacccggacc ccggaaggct
                                                                      1020
tttttnncct engggtaaaa acttaacaga cenatttttt geeegeentt taacangtet
                                                                      1024
      <210> 34
      <211> 982
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(982)
      <223> n = A,T,C or G
      <400> 34
acaacaatct aagcaaatct caaatacaac atacttgtaa ttagaacaca atgcaatgac
                                                                        60
ttgattttag caagaactag acacttaatt tggtaaaaga aaccaaacaa tgcattatat
                                                                       120
tgaatactaa gctaagttac cataattagt cttacaaatt ctcaaatttc acaactactt
                                                                       180
ttgaacatct aaatttaaac ctaaattttt taattaaatg cctgttcaac aaagctaatt
                                                                       240
ggaacaaaca catttatgta aatttacatt ctagaatacc agggtaaaca aggagacgtt
                                                                       300
atteaaagat gaatgagaaa gttetattet titteateat tigigigate aggitgeaaa
                                                                       360
ggacatgete ttteetegat gaaactgatg tegaattagt ggeagaggtg gaagaaceaa
                                                                       420
gcacctttct gggggctcqa qcagccacca cttttctgta agtgcctggg aacactgtct
                                                                       480
540
cageegaagg tgtttcactg ggacaaggee cegegttace tgeeeggge gggeegeteg
                                                                       600
aaanggcgaa ttccaagcaa cactgggcgg gccgtttacn nagtgggatt cggngctcgg
                                                                       660
                                                                       720
gtancaaggc ttgggggtaa tcaaggggca atagccggtt ttcccngggg tgaaaaatgg
tnttccgngc acaantccca nacaancatt ccgaagccgg gaancntnaa agtgttaaaa
                                                                       780
nectggggt ngcccaaatg angtggngct naacteccat ttaaattngc gnttgegece
                                                                       840
                                                                       900
nannggceng cetttecaat tneggggaaa eetgttnegt gecaagtegg cantaaagaa
                                                                       960
atcheggena antecceggg gnaaagggeg ggnttgeegt nttgggggge gnetteeggn
                                                                       982
tttcccgggc caaagggann ng
      <210> 35
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 35
                                                                        60
cttggcccgc cctcggatcc ctagtaacgg ccgccagtgt gctggaattc gcccttccat
cctaatacga ctcactatag ggctcgagcg gccgcccggg caggtataaa atttaaaaaa tttaaaaaaa aagatttgca aaatgtaagt gtagatcatt tgaacaagca aaattaaagt
                                                                       120
                                                                       180
acceaetggg ggaaatgtgt etgaatetta etettetgga tetgeaggat tagggettgg
                                                                       240
aagtatgtca aagatgcagg gagtgtcaaa gtttaggaag attgtagagc tgagagcaag
                                                                       300
aagcagaaat gagtgagtca aagaagggag tootaataca toaccagato taggagggga
                                                                       360
                                                                       420
gaggagacag acagaagaaa acaccagagg caagaactgt agaaggccag gtttctgaga
atgaattgag cggggtgtcc tgagcagttt ggaaaaggag tttttgatgg tatggtgtag
                                                                       480
                                                                       540
gtgagggetg getgeatagg aaggaetgag gttggagegg acategggaa agetgagggg
cagtgaggtt tactacatgg gaaaaggact cttgaaacga gaatcagtgt tgatgtcagg
                                                                       600
gtgaactttg tgggtacatt acttggtgtt aacattggtg gcagtggtaa gccccttttc
                                                                       660
agaaagcaac ttgcttgtaa gtcanggtgt ccggtccaac ctttaactag tgaaaaggta
                                                                       720
gtaaccaatg gtaaaccagg agaatgattg gttnaaccct atctgnggac acttaaatgc
                                                                       780
```

```
840
cactggttta aaaatggnaa tcacgagttt tgtancaacc ggggnaatat atttaccgga
acctttantg ggnnaaagcc ggncnccnaa ggntttttat tncttcnggt tttaacctta
                                                                       900
                                                                       960
acaggincaa titataatgo ogggocatti aacaggicat tittaaccog gionnittit
acconggtta aaaaanntnt atgootttag gncaaaanot ttttnngggg gnttnttgtt
                                                                      1020
                                                                      1024
      <210> 36
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 36
taccgcctcg natccctagt aacggccgcc agtgtgctgg aattcgccct tccatcctaa
                                                                        60
tacgactcac tatagggete gageggeege eeggggeagg tageaaatgt tgtggeatte
                                                                       120
ctcctcctcc tcaagtcttt acccgaaact acttcccaag agaggttgct cttcccaaag
                                                                       180
aatcacctgc cctgggacca tatggggcta ggctgagggt caggagccaa gagcctggtc
                                                                       240
                                                                       300
ccaactetgt etgtggetta etgtgagace etaggeaagt tgettaeeet etetgggget
caaattotto otottigaaa taggaataat aacttoatoa otagaattot toacciggtt
                                                                       360
                                                                       420
gttgtgaagt taatcagaat aaatgtggag ataatacatg aatgagcgta cagaatatta
tttggctgtt ctgtggcatc gatataggtc atgatagtga caatagtgtc tgtcattgta
                                                                       480
                                                                       540
ttccacacca cttcttccct cagctaaagc aggaaaagaa aggaggtaag tctctctgtg
ttttttcttc ctttccccaa gcccactttg ttaccttcct tggttgctgg atgagaaatt
                                                                       600
                                                                       660
agtcagaggg tcagagagga cctcaacttc atatgcttta aatagagcat atgcaatttt
aaaccatcct cttaaccaat ttttcttttc ttttcagttt ttccccagtt atacttccac
                                                                       720
                                                                       780
atgatacacc agagaaggaa gatcctttct catactgaag aacacaagaa atttgaatag
ttcctgcttt ctgnaccttc caccaaaaca aacttttcaa tgatccaaaa aactggcttt
                                                                       840
                                                                       900
gnactgggga gtcacggaat gggccggctt ccangganca tggcggnngg gcctttgcgg
ngtegggeet gtggtggegg eggaaaggna acegggggea tggnttneeg ageetggtet
                                                                       960
                                                                      1020
tgecceeng ggncatggtg tggaggcaaa gaancetgaa gtecceaeng gecceeggga
                                                                      1024
agna
      <210> 37
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 37
cttggcaccg encteggate cetagtaacg geogeoagtg tgetggaatt egecetteca
                                                                        60
tectaataeg aeteaetata gggetegage ggeegeeegg geaggtgaat teageggeeg
                                                                       120
ctttttttt ttttttttt tttttttt acagggcggc tttttgttt atttctgctt
                                                                       180
ttttcccttt ttcttaaaaa aattaaataa agttctcatt atttccccaa tatacatcaa
                                                                        240
atgagttttc atgcaaagca gcagtcacag aggcagaact gtccccagct cgtgcctntc
                                                                       300
ggcttgaaga accacctint cooggeooog ggttetetgg ngtteteact gaggatggac
                                                                        360
gacgcccact gtctntccca gctggaactg gctatgacga aacttggctg gcgtagggag
                                                                       420
aggagteete ecetnteece aggatggggt etcaggggae agcaagetet ggggeetgat
                                                                        480
ccccatcact tgnccttcca tctgagactc ccagtgtgac agcttggaca ggtccctctt
                                                                       540
cccaggaatg cgaggetect ceteteaget eteaatggae atggeattaa tgagetgete
                                                                        600
caccttataa gccagccgnt gccgccgtgc ctgctcatcc tgctctaggg ccccgatgag
                                                                        660
ctcctcacta tacttgctga cataggagta gatctcattg ggggcactca acatgttgaa
                                                                        720
actccacggn gtgcaggcgg gactgctcgg cgagggtagg cattcatggc ctggtcactg
                                                                        780
gatggctggg aacettggee aaggetgegg nagnatettt teeecccage tnttggnaac
                                                                        840
ttggggaagg cccttgggca taaaaagcaa cttggttgga anggggaggn ctttgcccaa
                                                                        900
```

960

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```
cccgggggct ttggacgttg gaacaagagt nccttgaagg gtttgggncc cccncaaaaa
                                                                    1020
ngcangente egggaaagee geeettgggg gtgncaaaac ecenaactgg ggggttnttn
                                                                    1024
aanc
      <210> 38
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024).
      <223> n = A,T,C or G
      <400> 38
taccgccctc gcatccctag taacggccgc cagtgtgctg gaattcgccc ttccatccta
                                                                      60
120
ttttttttt tttttgcttc acaactgttt attttaagct gaaacttcaa tattcattga
                                                                     180
ttacctataa taatagttac tcataaatgt agttaataat taaatataaa aattattatt
                                                                     240
                                                                     300
tttacattta tataaatctc tgaaaaatac caagttttga gagatagagc aagaaattgc
                                                                     360
ttanaaaatt gcaggaagcc tgaanaatct cagcatcagt caaagcaggt ncaacaaaaa
acaattttag acattcattt tttgctttaa gagtgcttaa aataaatgat cacagaatga
                                                                     420
                                                                     480
ataactgatg tatggcaaaa atgagtttaa aactatgtaa gctccaaggc cccaatgtgt
ataagaattc tttggaagga ttttgaagga ctgtaaatgt tgcaaataaa agtaaaaact
                                                                     540
                                                                     600
agtagttagg caatgngttt taaactatag ngtcacctac tgntcttctg gtgcctaact
gnattettea acatettett tteeettttg attagaaate etggtetace teaaaggttt
                                                                     660
                                                                     720
tgcattgntt tctagggaca tcagcaaact ggtagaccat atgagaaaca gaaataaaca
gtaatattat ctttagaaat taagcattat gtacncagtg agaaatggat tgacttgata
                                                                     780
                                                                     840
gaccttaaac ccctttcttc ctttcacacc ctttntagna ccacctaang gtatccggat
tggggatggg gcccenctnt ggtaatcccc ctnnagtcag gacaggggcc cctaagggcc
                                                                     900
                                                                     960
caattttntt tcgaattaga gaaatncccc attttttggg gggttggcaa gtnttanccc
anggettgea aaggettnit titgaagana eneceaaace eggggnetin titttengga
                                                                    1020
                                                                    1024
atca
      <210> 39
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 39
tegecegage agnangenen ageggnenne agtgtgatgg ttatngtgnn gnnttegene
                                                                       60
                                                                     120
tnecatneta atnetactea etatagggnn entgngnene nnggenagtn ntnacnnntn
annggtgtaa ctgatatcat ntcncnnana ccatggttac atnnanntag gtctcnnang
                                                                     180
                                                                     240
nataccange thtqaqaqnt ngaccnggaa ntegnttnga aannttgngc gangcengat
caatateene atengneaca geggnteege aagetgacaa tnetgnanat tnattnttgg
                                                                     300
                                                                     360
tttanngane nnttacangn atggnnecen gagatgeatg nnggagtatg geaaagatgn
                                                                     420
ntgtaaaact atgtaagctc naaggcccca atgtgnataa cagttentgg nanggantnt
qanqqantqt aaqnqntnaa nntnaangnn anannnaaga ggtangncat gagcccnaaa
                                                                     480
ctgtagnnnt anctacagng cttanggcgc ctacctggga caggcnacgn cttcattaac
                                                                      540
cttttgatta gaannacggg ggtaacncac nggttnngca tggtccagta ggngcattgn
                                                                      600
congonggo aaccatatgo tgngoncaaa taaacggtgo ttttanctca nnagattaaa
                                                                      660
getttttgge cacaggggna aaagnatgge ttganaggee ttaaaeceee gtaetengtn
                                                                     720
cacccettin gagaacenee taacgggate tggaaatgng atggeeecet nttgggaaac
                                                                      780
nccctanaag anacctengg ngacccettg nggcccattt tgangtttag nacngcaatt
                                                                     840
tncccatttt tgnggttttt gccaacccta agncatnggc tggcaatgga ntgnnttttc
                                                                     900
caataqaanc aaaccccqqn tnttttttgg ggggnatcag ggttaagggn nttggcaaaa
                                                                     960
                                                                     1020
nnaaannggc nennggnaaa aattttteee nggtntaten aaanneecca aagettttng
```

```
1024
caan
      <210> 40
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 40
nggacgcatg ctcgagcggc cgccagngng atggatntng tgcagaantc gccctttcat
                                                                        60
gectatgate congeacttg gngaggeega ggateteete tetgggggat caettgaggg
                                                                       120
                                                                       180
caggagttaa gagaccatcc tggccaccat gatgaaaccc tgtcnctact nnacatacag
gaagnagetg gnegngntgg catactetta caateecage taettggnag gntgangcag
                                                                       240
                                                                       300
ganaatcact ngnacctang aagcagaggn tgcatntgnn ccaanancac accactatac
                                                                       360
thtagcctgn acgacagagg tgntgataan agcnggaccc ctgactatat ncaggntttt
                                                                       420
ctgacntnna nnancncatc taaatnctac gccgtntgag gtcgcntagg ttangtagnn
natnotnatt tatgaccaat atgntgtnan acggentnnt gntnaaaant tntacagnan
                                                                       480
                                                                       540
ggengnetae nttnettata atgnggaaaa eggtgnetga natneangtg nnnnngteen
nttnntggna agaggnttng aaanncanca gtgcaccttn tgaactctac nagnagcttn
                                                                       600
                                                                       660
tgaagctaac naagcnttaa natnagatgg cntgntagga ctgtacnngc anggaaagat
tcacaaaact ggacattctt naccgagata ngntcttgct ttaccgggga ggacnnntcc
                                                                       720
aaggntgtnt naagagggac agtcagctta gtnntgctng ggtagagaaa accangactt
                                                                       780
natntqtgaq cttgatnggc agaacctggn nanccttgga agagentnga ttgncengat
                                                                       840
ccctgaaagg gcnnncttna ccctatcggg gaccttnnna acctcttang tggcacgcaa
                                                                       900
qqcacnaacc nqqcncnttt caaqaatcnc nggaatcnag gcccctttct tgggntnanc
                                                                       960
engnnnnncc cgttnagncc enegggnaaa anntettggg nntttccaat ccengnggnn
                                                                      1020
                                                                      1024
      <210> 41
      <211> 1004
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1004)
      <223> n = A, T, C or G
      <400> 41
                                                                        60
ggtnnnntta atcategeen gettggtace gageteggat ecctagtaac ggeegeeagt
gtgctggaat tcgcccttag cggccgcccg ggcaggtact tcccaccact ggaaatgtta
                                                                       120
gcataaaaga acttggagag gaaaaaagta ttaacaaaac tgcagtctgc actctttaaa
                                                                       180
                                                                       240
cctgtttaag gctcttcatc ctggttagca aaaggtgtga atgtaatgtg atggaattta
aaagttttat gagaccaggc acagtggctc acgactgtaa ttccagcagt ttaggaagcc
                                                                       300
gaagtgtgca gatcacctga ggtccggaga ccagcctggc caacatggtg aaaccctgtc
                                                                       360
totactagaa atacaaaaat taqooaggtg tggtggcggg cgcctgtaat cccaactact
                                                                       420
                                                                       480
caggaggetg aggetagaga atcacttgaa eccageagge ggaggttgeg gtgagtegag
atcacgccat tgcactccag cctgtgcgac aagagcgaaa ctctgtctca aaaagatttt
                                                                       540
ataagaaagc agagcttttc cttgaagctc ttttgaagtg gtagcttaat tagtattttg
                                                                       600
ntgaaaatac titaaagatg cetagtgaaa ageetactaa agtgetgtga aaaatggggt
                                                                       660
ttanaacatt ttattttcan getttatgge etattttcca ttgnggcaag tgcaaaacta
                                                                       720
ccctgqccca aangaagggc agagaacata attacctctt anggcacatt tcattctttg
                                                                       780
cagetttget taatecagtn getaagttet ttaeetnaac cetgnaggna ttgaacntta
                                                                       840
                                                                       900
ttnccatttn ngnaaaaggg tcaccctntt nnnacaatnt tncannanct ttttnggaag
ttancenttg geettaaaan ttnaaaante entntggnnt teeetttatn eecennangg
                                                                       960
gnnnantang gnntggattt ttaanggnee ttggeengaa cccc
                                                                      1004
```

```
<211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1020)
      <223> n = A,T,C or G
      <400> 42
nnnnnnnn nnnnngattg ggccctctag atgcatgctc gagcggccgc cagtgtgatg
                                                                       60
gatatetgea gaattegeee ttagegtggt egeggeegag gtacetttga taatteetag
                                                                       120
acctctattt tcattctgtg tattaatgtg aataacagat ggatatttta atatttaagg
                                                                      180
cagatggtaa actttcctat aggtcttgtg agacttcgtc ttataggctg aacaccattc
                                                                       240
acaaaatgta ataatgcttc attccttcag gttgaggtaa agaacttgag caactggatt agcaaagctg caaagaatga aatgtggcct aagatgtaat tatgttctct gcccttcctt
                                                                      300
                                                                      360
tgggccaggg tagttttgca cttgacacaa tggaaaatag gccataaagc ctgaaaataa
                                                                      420
aatgttctaa accccaatct cacagcactt tagtaggctt ttcactaggc atctttaaag
                                                                       480
tattttcaac aaaatactaa ttaagctacc acttcaaaag agcttcaagg aaaagctctg
                                                                      540
ctttcttata aaatcttttt gagacagagt ttcgctcttg tcgcacaggc tggagtgcaa
                                                                       600
tggcgtgate tegacteace qeaaceteeq cetqetqqqt teaaqtqatt ctetaqeete
                                                                      660
agcettetgg agtaagting gaatacagge geecegneaa cacacetgge taaattitgn
                                                                      720
atttetagta naanaccagg ttttnancat gttggncaag gctggtcttc cggaaccttn
                                                                      780
angtgatctg gacacctttg gntttcctaa actgggtgga aattancagc gggaaccnct
                                                                      840
ggggcctggc tcattaaacc tttaaaatnc cttnccattc anttcncacc ttttggtaac
                                                                      900
cccgnatgaa aaccettnaa ccgggtttta agnangenna nnngggnnat ttgtaaaact
                                                                      960
ttttccccnt tccaagtcnt ttaagccaan nntttnccng gnnnngggan ccctnccqqc
      <210> 43
      <211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1020)
      <223> n = A, T, C or G
      <400> 43
ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                       60
gctggaatte gecettageg tggtegegge egaggtaett tttactgett tgtetteaag
                                                                      120
gcctagtgta ataattaaca totagtatgt gtttgatgga tagccaattt ttgcttcatt
                                                                      180
ggtatgttgt taccacagtc attggtagag tcaatatatg aatgaagaaa gtataacaaa
                                                                      240
titgccctct agragagiac ttttttttt tttttttt ttttttt ttttqtttt
                                                                      300
360
ttttttttt ngnnnttttn ncnttttttn aannaaaaan cggcccnann accnncennc
                                                                      420
nnntttttt nnenggeenn cenggnttng gggnngggnn enttnnggge ennnnggnen
                                                                      480
ettitteen naagggtitt ggggtitting gggnaaantt inggnnenan nnnggeena
                                                                      540
aaaaanttnn gnccnanaan cgcnntttcc nannnnttnn cnttggggcc caaaaanttn
                                                                      600
egnaaceeen tgggennaaa gggenttgnt ttttttgggg nnecenaaac cangggggg
                                                                      660
cnnaaaaaat gnccettgaa ntttttaaaa aaccetntgg naaaaneece nngggtteec
                                                                      720
communece ttanttttnn acanaanggn nnaaangggg necennnaaa nacenttngg
                                                                      780
ggccnttttt tnacaaattt ggggntttnn aaaggggttt tnnggggggc cctntatncc
                                                                      840
conaaaaang aaagggnnno coccecennn nnnnnnnnoc chaancecec ggnnnttttn
                                                                      900
congggggg commaaaa ggggmaant ttnggmaaan nommmen ggggggmoen
                                                                      960
ttnaaanntc nntttnanng gggcconnnn nnccconnnn annggggggn nnaaaaaccn
                                                                     1020
      <210> 44
      <211> 1024
      <212> DNA
     <213> Homo Sapien
```

```
<220>
      <221> misc feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
nnngnnnnnn nngattgggc cctctagatg catgctcgag cggccgccag tgtgatggat
                                                                       60
atotgoagaa ttogocottt cgagoggoog cocgggoagg tacgoggggo toggogotgo
                                                                      120
ctacggaggt ggcagccatc tccttctcgg catcatggcc gccctcagac cccttgtgaa
                                                                      180
                                                                      240
gcccaagatc gtcaaaaaga gaaccaagaa gttcatccgg caccagtcag accgatatgt
caaaattaag cgtaactggc ggaaacccag aggcattgac aacagggttc gtagaagatt
                                                                      300
caagggccag atcttgatgc ccaacattgg ttatggaagc aacaaaaaaa acaaagcaca
                                                                      360
                                                                      420
tgctgcccag tggcttccgg aagttcctgg tccacaacgt caaggagctg gaagtgctgc
tgatgtgcaa caaatcttac tgtgccgaga tcgctcacaa tgtttcctcc aagaaccgca
                                                                      480
aagccatcgt ggaaagaget geecaactgg ceatcagagt caccaacece aatgecagge
                                                                      540
tgcgcagtga agaaaatgag taggcagctc atgtgcacgt tttctgttta aataaatgta
                                                                      600
660
                                                                      720
nnnnnnnn nnnnnnnnn nnnnnannna aanccennnn aaaanannnn nnnnaaaaag
gcttntttta angggcaaat tgggaaacct ttttnattca aaaatggctt ttnccangga
                                                                      780
ctggggacca nnttncccng gggnccaaaa ttgggntttc ctttaanccc nttncnnaan
                                                                      840
gggaattttt ncccttgggc cttgaaaaac naagennnna aaaagnccct tgggnnggaa
                                                                      900
                                                                      960
accepting ggggaattic enencenting ggggggennt ninnnnnggg accepanting
gncccaantt ttggggaaaa nnngggnnaa aaagggnnnc cctgggggaa aatgttnccc
                                                                     1020
                                                                     1024
ccca
      <210> 45
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 45
ggagnnnntn aatcatacgc cagettggta cegagetegg atcectagta aeggeegeca
                                                                       60
                                                                      120
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacggcgca ttttgtgcac
acaaaatgtg cgcacacaca cacacacaca cacacagaca ctcctgcaca tggcctgtta
                                                                      180
aagaactaca agggaggtgg gacgegggaa agtgtatggt gtgggtttge ategteteat
                                                                      240
cattgattct tctcatattt ttctctgatt agagaaacta aagagaattt tgtgagaaag
                                                                      300
gettgaaagt taatgagtta ettetaceaa agtgattaca ageagaaate eteagatget
                                                                      360
                                                                      420
gragagatge tgacccacae atcettaget caaggaagee cetegeatta greacettea
gecateagea gectecacea ttaaceecag tgtgetgtat aaaaaataet ttetacatgt
                                                                      480
                                                                      540
goccaaattt gaaaagttag gaagcactga tttcaaagca aatcattcac atttgaactg
tetteagtgt accteggeeg egaceaeget aagggegaat tetgeagata tecateaeae
                                                                      600
                                                                       660
tggcggccgc tcgagcatgc atctagaggg cccaattcgc cctatagtga gtcgtattac
                                                                       720
aattcacttg ccgtcggttt tacaacgtcg tgactgggaa aacccctgcg ttacccaact
taatcgnent ggagcacatt eccentttgg cenactggeg taattaacca aaaaggneeg
                                                                       780
gaccgaatcg gccntttcca acaagttggg ccaacctgaa tnggcnaaan ggccccccc
                                                                       840
                                                                       900
tgtaaccggn gccattaaac ccccgncggg nnnntngggg tacccccaac ggggaccggt
taacttggcc anggccttaa ggcccggtcc ttttggtttn ttncctttcn tttttngccc
                                                                      960
                                                                      1020
ntttnccngg nttttcccgn aaagntntaa aaaggggggg tccccnttta ggggtcccaa
                                                                      1024
taaa
      <210> 46
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
```

```
<222> (1)...(1024)
<223> n = A,T,C or G
<400> 46
```

```
60
nnngnnnnn nnnnnngaa ttgggccctc tagatgcatg ctcgagcggc cgccagtgtg
                                                                      120
atggatatet geagaatteg eeettagegt ggtegeggee gaggtacaet gaagacagtt
caaatgtgaa tgatttgctt tgaaatcagt gcttcctaac ttttcaaatt tgggcacatg
                                                                      180
tagaaagtat tttttataca gcacactggg gttaatggtg gaggctgctg atggctgaag
                                                                      240
gtgactaatg cgaggggctt ccttgagcta aggatgtgtg ggtcagcatc tctacagcat
                                                                      300
ctgaggattt ctgcttgtaa tcactttggt agaagtaact cattaacttt caagcctttc
                                                                      360
tcacaaaatt ctctttagtt tctctaatca gagaaaaata tgagaagaat caatgatgag
                                                                      420
acgatgcaaa cccacaccat acactttccc gcgtcccacc tcccttgtag ttctttaaca
                                                                      480
ggccatgtgc aggagtgtct gtgtgtgtgt gtgtgtgtgt gtgcgcacat tttgtgtgca
                                                                      540
caaaatgcgc cgtacctgcc cgggcggccg ctcgaaaggg cgaattccag cacactggcg
                                                                      600
gnogttacta agtggatoco gagotoggta ccaagottgg ogtaatcatg gnoatagotg
                                                                      660
nttcctgtgt gaaattggta tccgctcaca attccacaca acatacgagc ccggaagccn
                                                                      720
                                                                      780
taagtgtaaa agccctgggg tgcctnatga gtgagctaac tccattaaat tgcgttgccg
ctcactggcc ggtttcagtc cggnaaanct gcggncnact gcantaatga atcggncaac
                                                                      840
gccccggga aaaaagcggt tgcgaattgg gccctntttc cctttcttgg ttaatggact
                                                                      900
                                                                      960
contingent tiggeontic gentingen naacgegatt aantinnit naaaggeggg
                                                                     1020
naanacgggt ttncccnana aatcnggggn aaacccccng gaaanaaacn ttggncccaa
                                                                     1024
nggc
```

<210> 47

<211> 1024

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1) ... (1024)

 $\langle 223 \rangle$ n = A,T,C or G

<400> 47

ggngnnnnnn aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt 120 gctggaattc gcccttagcg tggtcgcggc cgaggtgcat ctgaacattg ccaagcccta ggacattccg tagagettgg ggattetgga ccaattggtt cagacaggae acgaaatgee 180 240 tgtttgatgg gttctgcaat taaacaccca actactctct tttcatcaga tataaaaaga aaagttttta ttttgtttgg acatttagga acaacttgct ggaagcecaa ttcattatca 300 acaagttott ggacatotto tacotttttg atagcaaago ttggatcatg tggcagaaco 360 aacacgattt tcccatccca aaactctgct actacacgtt ctttcttcca acccacatat 420 ttgattcctt ccagaaacct gtggtgatgc tgtacctgcc cgggcggcaa gggcgaattc 480 tgcagatate cateacactg geggeegete gageatgeat etagagggee caattegeee 540 600 tatagtgagt cgtattacaa ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac cctqqccqtt acccaactta atcqccttqc agcacatccc cctttcqcca gctqqcqtaa 660 taagegaaga ggeeegnace gategeeett tecaacagtt geegeageet gaatggegaa 720 tggacgcccc ctgtanccgg cgcattaaac cgccggcggg tnnttggggt accccncacg 780 gggaccggta cactttgnca agggccctaa cggcccggtc cntttcgctt tcttnccttt 840 cntttnttqq ccacqttnqn ccgggttttc cccgtnaagc ttttaaaatn gggggcttcc 900 cnttttaggg gttccnaatt aanggettta cgggaccett gacceenaaa aaactttnnn 960 tttnnggggg gnggggntnc ccntaggggg ccattgnccc ttgnnaaaaa anggtttttn 1020 1024 nncc

```
<210> 48
```

<211> 1017

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1) ... (1017)

<223> n = A, T, C or G

```
<400> 48
gnnnnnnnga ntgggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                  60
                                                                  120
quagaatteg coettgooge cogggeaggt acageateac cacaggttte tggaaggaat
caaatatgtg ggttggaaga aagaacgtgt agtagcagag ttttggggatg ggaaaatcgt
                                                                  180
gttggttctg ccacatgatc caagctttgc tatcaaaaag gtagaagatg tccaagaact
                                                                  240
                                                                  300
tottqataat gaattgggct tccagcaagt tgttcctaaa tgtccaaaca aaataaaaac
                                                                  360
tittetttt atatetgatg aaaagagagt agttgggtgt ttaattgeag aacceateaa
acaggcattt cgtgtcctgt ctgaaccaat tggtccagaa tccccaagct ctacggaatg
                                                                  420
                                                                  480
tectagget tggcaatgtt cagatgcace teggeegega ceaegetaag ggegaattee
                                                                  540
agcacactgg cggccgttac tagtggatcc gagctcggta ccaagcttgg cgtaatcatg
                                                                  600
gtcatagctg tttcctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc
ccggaagcat aaagtgtaaa gccctggggt gcctaatgag tgagctaact cacattaant
                                                                  660
gegttgeget cactggeege tttccagten ggaaacetgt egtgeeaget geattaatga
                                                                  720
ateggneaac gegeeggga aaaageggtt gegtaattgg gegetettte egetttettg
                                                                  780
nttacttgac tccttgggct tcggccgttc ggntgcggnn aacggnattc aacttactca
                                                                  840
aaaggeggna ataeggtatt eeengnaate nggggataae eeeeggaaan aaetttgace
                                                                  900
naaaggccc caaaaggccc ngaacccgna aaaaagggcn cgnnnnnnnn ggggtttcct
                                                                  960
aaggttccgg cccctggnn aggtttccca aaaatngnnn cctttnannn nnnnngg
                                                                 1017
     <210> 49
     <211> 1024
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc feature
     <222> (1) ... (1024)
     \langle 223 \rangle n = A,T,C or G
     <400> 49
ggngnnnnnn anatnaaacg ccagcttggt accgagctcg gatccctagt aacggccgcc
                                                                   60
                                                                  120
agtgtgctgg aattcgccct tgagctggcc gcccgggcag gtactgaaat tactctgaat
tcagaaatgt aagtatatgc agctaggtca taaagacact gctttagaga agacatgtat
                                                                  180
                                                                  240
tagtggaatg gaacaggtaa catctttgag aagtcaatga gttctgcatg cagggatttc
accateggaa tgatggcaag aatgatgeet geetgtgtge tteteagagg aegtataaag
                                                                  300
                                                                  360
ccactgagga tgagtgctac agtgcttgtg aattgtgggg ccacagacat ttaagttggc
attgetttte teeteetetg ettaateeae etttataaat atggeagatg gettaagaca
                                                                  420
                                                                  480
ggcatcatca gcatctctgg agatgtgggc tcagagggca agtgggggcc gtgggggttt
ccactagagg gagggaagtt tetgttteec atgtgttagt tgtagttgte tttgtgette
                                                                  540
                                                                  600
accagaaaag aggtagagtg cgcaccttca cactaagagc ccgaaattgt gggtcagtac
660
                                                                  720
tnnnttnnnn ngnnnnnnnn nnnnnnnnnn tttnntnngg nnnncncttn nnnnnnaann
nngnnnannn nennnnnnn tngnnnnnnn nnnnnenttn ngggnnnang necenannnn
                                                                  780
                                                                  840
nconnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnconannn nnnnnnnnn
                                                                  900
nnnaannenn tunnnnnnn nnnggnnnnn nnnnttnnan nnnnnnnnn nngnnnaann
                                                                  960
1020
1024
nngg
     <210> 50
     <211> 1024
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1)...(1024)
     \langle 223 \rangle n = A,T,C or G
ggagnnnntn nntncngant gggccctcta gatgcatgct cgagcggccg ccagtgtgat
```

```
ggatatetge agaattegee ettagegtgg tegeggeega ggtacaetga ettgagacea
180
                                                                     240
aaaaanaana ntaaaaaaaa tttnaaggta aagntnncnn ntnaaaatct tttagggnna
                                                                     300
                                                                     360
teentatann nnttttegnn tntttnnngg ntngneetet nntneennnt tttttnggna
anccenaann ecengnetta eennatgngn cananttaaa anggtnentt nttnngngga
                                                                     420
                                                                     480
netcannnee eeegeenttt tnntnngggg ggnttnneea nnggnggnna aatgenenge
tnatnaanan gggnttnntc cnaaatnngn naanccetga ggnggnaanc ntnntggnct
                                                                     540
                                                                     600
tnntnengat tnngnnacce cenenngeag anntenttgn nneettantn eegggggnta
naccetteet ttaaaanene nntgntntna aaaannnttt neetganena tegggntaaa
                                                                     660
                                                                     720
ncnnnttttt tgaaaaccnn ggctttttnn aanangctcc gntnggcnaa ctttggggaa
naaggnnttt tttaaggeet tgetttttag ggeeaneeta anggngannn nengttgnet
                                                                     780
                                                                     840
tgnnngatgg tttttagggn ttcccgggtg ggaccnttnt tggggggaaa ttttggnccn
aggggntccc ctnnaagaaa tccnnnttcc nggncncnaa ttnccnnaaa aattnngggn
                                                                     900
                                                                     960
ccnaaanntt thattgggaa ggncctttgg ttgccccnnt aaanggnccn naaaccttta
aangggggn gentttaatg geneettten ggneeenaaa aaanggggne eeeeennttt
                                                                    1020
                                                                    1024
nagg
      <210> 51
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
qnqnnnnntt aactcccgct tggtaccgag ctcggatccc tagtaacggc cgccagtgtg
ctggaatteg ceettagegt ggtegeggee gaggtaettt tittitettt tetteettt tittititt tittaattitt gagatggagt tittgetettg tigeecaege tggagtgeaa
                                                                     120
tggcgcaatc ttggctcatt gcaacctcca cctcccggat tcaagcgatc cttctgcctt
                                                                     240
                                                                     300
agetteccaa gtagetggga ttatagaegt gtgecaceat teccagetga tttttgtatt
                                                                     360
tttagtagag atggggtttc accacgttgg ccaggctagt ctcgaactcc cgacctcatg
                                                                     420
tgatecteec accgcageet eccaaagtge tgggattaca ggegtgagee accataceeg
gttgattgta gacttttgat tggtatttac aaggacccat gagaggcaac aaagagaagt
                                                                     480
                                                                     540
tgtcaagaga acagaccctg agaccaatag tttggctcaa gctctggctc cctaacttcc
taccagtttg accttgggca agttacctaa catctttgtg cctccatttt ctatttgtaa
                                                                     600
aaggaaacta atagtagtgc ctactttata atagagttat tacaaatatt aaatgagtta
                                                                     660
atatttgtaa agtaattaga aaaatgcctg gcacttcaaa agcagccttc atttattctt
                                                                     720
tggaaataat tttaaatgaa ttcaagggtt atatgtagct tttaggcata tatncctaaa
                                                                      780
tggcactgta aaactgcana aatatccgat ctttaaaaaat ttttgggtaa atttatcata
                                                                     840
atatggnaac caaatcccat ttaatggctt ttaggggtan ccgatnaaaa ccngaagttt
                                                                      900
gcagtttaag cenettatgg aangggacce gaaattecaa gganeceann gggaaaaaaac
                                                                     960
cccnngagga atnttggccg ntttaantta aancetttgg gtnntttaag nncctaaaaa
                                                                     1020
                                                                     1024
nttt
      <210> 52
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1)...(1024)
     <223> n = A,T,C or G
      <400> 52
                                                                      60
qnqnnnnnt tnngntteng antgggeeet etagatgeat getegagegg eegecagtgt
gatggatate tgcagaatte geeettegag eggeegeeeg ggcaggtaet tcaaaactat
                                                                      120
```

tcataaqcaa aaatcaqtqt caaaaatatt tagtaactta aaaaaaacaa aaagtataag

```
tagagacgga caagaactee teetgettte teecactggg eteategtat ttetgtteea
                                                                      240
                                                                      300
ttacataaga gactaaaact gacaaactct gttttatcgc taacacctaa aagcaataaa
tgtgatttgt taccatatta tgataaaatt taaccaaaaa attttaaaga tcggatattc
                                                                      360
tgcagtttac agtgacattt atgtatatat gcctaaaagc tacatataaa ccttgaattc
                                                                      420
atttaaaatt atttccaaag aataaatgaa ggctgctttt gaagtgccag gcatttttct
                                                                      480
aattacttta caaatattaa ctcatttaat atttgtaata actctattat aaagtaggca
                                                                      540
ctactattag tttcctttta caaatagaaa atggaggcac aaagatgtta ggtaacttgc
                                                                      600
ccaaggtcaa actggtagga agttagggag ccagagcttg agccaaacta ttggtctcag
                                                                      660
gggtctgttc tcttgacaac ttctctttgn tgcctctcat gggtccttgt aaataccaat
                                                                      720
caaaagtcta caatcaaacc gggtatgggg ctcacgcctg taatcccagc actttgggga
                                                                      780
ggctgcggtg gggaggatcc ccatganggt neggagttcg agactagcct gggccaacgt
                                                                      840
ggnggaaacc ccatcintac taaaaattcc aaaatcanct ggggaaggng ggcacacgtc
                                                                      900
tataatccca cttccttggg aagcttaagg ncnnaaggac gcttggaaac ccggaanggn
                                                                     960
gnggttcaat ggancccaaa atgngccatt ggnctttcnc gngggccaac angagccaaa
                                                                     1020
nrcc
                                                                     1024
      <210> 53
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 53
gggnnnnnn tnncttaacg cccgnttggt accgageteg gatecetagt aacggeegee
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacattactt ggtgttaaca
                                                                      120
ttgttggcag tggtagcccc ttttcagaaa gcaacttgct gtaagtcagg gtgtccgttc
                                                                      180
caacettcag ctagtgaaaa ggtagtaaca aatggtaaac aagagaatga ttgtttaaac
                                                                     240
ctatctgtgg acacttaatg caactgttta aaaatgataa tcacgagtta tgtagcaacg
                                                                     300
tggaaatata tttacagaac attaagtgga gaaagcagga cacgaaagta tatttatact
                                                                     360
acagttataa ctcaacagtt catttatatg ctgttcattt aacagttcat ttaaacagtt
                                                                      420
cattataact gtttaaaaat atatatgctt atagtcaaaa gctqttgtgg tqttqtttt
                                                                     480
gtaggcttat agttgagcat tattttctta aatttcttga atgttcttta tggtagtgtt
                                                                     540
actaaaaagt ttatgatcac attttcattg tgaacataat ttgaactcat tatcacacac
                                                                     600
ttggaaaata cagaaaagtg gaggaaaaaa aatcatatcc ccaccatcca aagacatata
                                                                      660
etetectett atettgntea ttettggtte tgngcacagg tttatgatta taactgngte
                                                                     720
aaaatgtata ttcaaaatag ctggtacatt acctttgngg nattatgggt aaatctttca
                                                                     780
ctttaatttt ttcaaaggtc cctatnataa tggcccggat aaccgnggga tttaaggggg
                                                                     840
eteccatggn gggcataatn cataccenga ggaaaaattn naaaattaag gnaantattt
                                                                     900
ttaaaaaatt noctatattt cocaaaacct aacaactact ggtaaaaatn ttggaccggn
                                                                     960
tccccctatt ntnggttaan ggcccaccct ttgggnaaaa ccggggtnaa aaattggggc
                                                                     1020
ctaa
                                                                     1024
      <210> 54
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 54
ggagnnnnnn ttnngtttgg gccctctaga tgcatgctcg agcggccgcc agtgtgatgg
                                                                      60
120
ttttttttt ttacatttat gcatacttat cactaacacc ctaataatca cagactagtg
                                                                     180
cacagatcaa gatgttaaca gttaattgtt gttgggtgtt gggaatatgt gtgaattttc
                                                                     240
tttactgaat ttccaaagtt ttgtatgagt atgtattata tttgtaatgg aaaatacata
                                                                     300
```

```
360
cataaaattt attaccaaaa caccaaagat tatttaagga atttgagaca aaatatttaa
                                                                       420
ccaaattccc acaatgacaa cactatttta gttattttcc acatcttttc atttaagact
                                                                       480
ttatgcacac atatttaaca ctgttatcac aagcgtgtgc actgaaacaa gatagaggaa
acagatcaag atgttagcag tagttgttag gtgttgggaa tataggtaat tttttaaaat
                                                                       540
                                                                       600
aatttacttt attttctaat ttttcctctg ggtatgtatt atgcacacca atggagacac
acataataca ctgttatcag gacattatta tagggaacat ttgaaaaaat taaagtgaaa
                                                                       660
                                                                       720
gtatttaacc ataattccac aaaggtaatg taacagctat titgaatata cattitgaca
cagttataat cataaacctg tgcacagaaa cnagaatgaa cnngattaga ngagagtata
                                                                       780
tgtctttgga tggtggggat atgaattttt cctncacttt tctggatttt nccagtgtgn
                                                                       840
gaaaaatgag ttccaaaata tggtcncaat ggnaaatgng anchtnaacc ttttagtanc
                                                                       900
                                                                       960
cettneettn aggaacattt caggaaantt tannaaaata anggetcaac ttttaggeet
acannancaa coconcaaaa ggnttttgac tntttancon tntatatttt taacoggttt
                                                                      1020
                                                                      1024
taan
      <210> 55
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 55
gnngnnnnnn ttaactccag cttggtaccg agctcggatc cctagtaacg gccgccagtg
                                                                        60
tgctggaatt cgcccttagc ggccgcccgg gcaggtacct cacatgggaa acatgggaag
                                                                       120
taaaaccacc tgaggagcct cttgatggtg agtcaggctg ttcctcgaag agtaggctgt
                                                                       180
                                                                       240
gactgccaaa ctttgtaggt taaggagtat ttataatgat ctttgaggaa actgcaactg
acaattgagg gaaaaaaatg ttagttcatg actgcaaaat acatgacaga atcacaaaaa
                                                                       300
                                                                       360
ctattttaca agtttaaaaa acaaacctga tgctgatgca tggcaggcga accccaaagt
ggggcttagc ctgcaagggt tcttggcttc acccaggaaa ggattcaagg gcaagccagt
                                                                        420
ggtaaggtgg aagaaaacac ctttatcaaa gcaacactgt tacagctcct gtggggtcac
                                                                        480
ageteagtga etgeteccag ggttgececa taggeagggt geegagagta geagetgage
                                                                        540
                                                                        600
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gnttcancct tgcattttaa aagggcccaa tttgnccctt taaanggagt cgantaccaa
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aacgccaagg ccgtgactct cttgctcatt tacaaacaaa agatcgaggg ctagctaaac
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aaggacagag cggaagcagc tttctgtaag acacacccag cagcgtgcct tgtcagttta
                                                                        240
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ccattgccat ggcaaaactc aggcattacc accactttca gcggcaatga cctgatgacc
caaaagttac caccetttte ctaacaattt etgegeaaac cacceetgaa tetgeatgta
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attaaaagta ggtatacata tgactgcaaa actgggctca gctgctactc tcggcaccct
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gcctatgggg caaccctggg agcagtcact gagctgtgac cccacaggag ctgtaacagt
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tgggtgaagc caagaaccct tgcaggctaa gccccacttt ggggttcgcc tgccatgcat
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cagcatcagg tttgnttttt aaacttgtaa aatagttttt gtgattctgt catgtatttt
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gcagtcatga actaacattt ttttccctca attgcaagtt gcagtttcct tcaaagatca
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ttataaatac teentaacce tacaaagttt ggeaagteac agnetactet ttgaggaaca
agectgactt accatcaaga agetteettn anggggntta enttecatgg ttteccatgg
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                                                                       900
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tnnnttaang gatccnaact tggganccaa annnttgggg naaannatgg gnnnnnaact
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aaccaacaca accatatgtt tagggetgga aagggecatg acgeetggte attitteetg
                                                                        240
ttttacctta ctcttatgtg tgtcacactt catcaattcc ggaaacagtt tctggagatc
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ccccttcttt ctagganccc agttaaaaaa aaaaaaccaa aactagcccc aatgnctgtg
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tggnttccca attggccgtt naacccaagn ctgntggatt cccaantinc cccattgntt
                                                                        900
                                                                        960
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aaagggcaaa ttntggagaa aatneettne aettgggggg centtnnaae atggentttt
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                                                                       1024
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aggaaccgca tgaagcaatg tgggaaattg ggaatcagca gacattgggt taacgggaca
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atggggagcc aagagatacc atcaaaattt aatggagggg tcagacactg tgttagtgat
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aaagaagggg acagaagagg ttccaaaata cagttgggaa atgtggacat tatggttcat
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tgtaagtcac cgccattgcc tgaggggaag gaagaaagtt aacagcatcc accgtattga
                                                                        420
gggcattece acatgetgtg ttagggacag ttagatactg ctaggtgagt aacgggagat
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gtgtaataaa agtatcagga gatagaaacc attgtattgc agggggcaca ccactgtccc
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gtaatqaaga gatettecag aaactgttte eggaattgat gantgtgaee eneettaaga
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                                                                        840
ntaaggtaaa acaggaaaaa tggnccaggc gtnatnggcc cttttcagnc cttaaccttt
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anggaaaccc gantectaan eetttnaagt eennggatga gaccettggn eegggaaccc
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cccttaaggg cgaaattcon neceacttgg gngggcontt nncttaaggg acccaacttg
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      \langle 223 \rangle n \approx A,T,C or G
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                                                                        120
                                                                        180
attteccate ticcategia tattgaaatt teeteateea tgteatettt etttgetttt
gataagaccc atccagccaa ccttccacta tcaaaagttt ctgcaaaata tacttctcct
                                                                        240
ataggttgag gtgtcttata tttaatctct gaggaaagtt cactttcatt aacatcaatt
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tettetgaat titetteaaa gtetteegte teaacateat catecataaa ttetgeatta
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ggggaccggt acactttgnc aagggcctaa cgnccggttc ntttggtttc ttncctttcn
ttnttngeac gttngnccgg nttttcccgt naagetttaa aatngggggc ttcccctttt
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tggtctgaag agacgcgggg accaagtggc aacgacttgg acatctgagc tgtcactgcc
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gaaaacaggc cgcaagagag ataatcaata tgcatttcca agccttttgg ttatgtttgg
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gtettetgtt cateteaatt aatgeagaat ttatggatga tgatgttgag acggaagaet
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ttgaagaaaa ttcagaagaa attgatgtta atgaaagtga actttcctca gagattaaat
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ataagacacc tcaacctata ggagaagtat attttgcaga aacttttgat agtggaaggt
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tggctggatg ggtcttatca aaagcaaaga aagatgacat ggatgaggaa atttcaatat
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acgatggaag atgggaaatt gaagagttga aagaaaacca ggtacctcgg ccgcgaccac
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gctaagggcg aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa
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cacacaacat acgagecegg aagcataaag tgtaaageee tggggtgeet aatgagtgag
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gccagctgca ttaatgaatc ggccaacgcc ccgggggaaa aagcggnttg cgtattgggc
                                                                        840
                                                                        900
getetteeet ttettgntta ettgactege ttgggetteg tegttegget geggenaacg
                                                                        960
gnatcagett acteaaange gggaaataeg gtanteeeca gaateenggg gattacecen
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ggaaaagaac ctgtgagccn aanggccccc aaanggcccn gaaccntaaa aaanggcccg
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      <223> n = A,T,C \text{ or } G
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accaattttg ctgcaagaat gggaactgct tttaaatctg taaatagctc ttaacatttg
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tgttggcatg ttcttttct caggctattc agaagtaaca acatttttca tttcagacat
gcaatcacct attaatgatg aaatatttta ccactttggg aatatttaat tagtttagtc
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ctttttctgt gaaaaatatt ttctgtttgc aaaatcttcc ctgagttctg aacccagcac
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eggeegeteq ageatgeate tagagggee aattegeeet atagtgagte gtattacaat
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gaacggccnt ttcccaaagg tggcncaacc ctgaaatggc aaatgggccc cccccttgaa
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coggngcont taancccccc neegggnntt tnggggteec eccaeggnga neegttaaac
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ttgc
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      <211> 1024
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gaactcaggg aagattttgc aaacagaaaa tatttttcac agaaaaagtg caaggaaagc
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agatagggat aaacagtgtt aaaactttct ttcttaatga ttcctccgat tagcctaaat
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agtectetat caacatgeat ttttagaaga agaaacteat etettaagga ggtetataat
                                                                        300
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atgacagtga tatttgaaaa atcttaaaat gtgggaagta ttctccatga ctaaactaat
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tttgtacctg ccccgggcgg ccgctcgaaa gggcgaattc cagcacactg gccgnccgtt
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acttagtgga teegageteg gteeaageet tgegtaaate atggneeata ntggtteetg
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ctggcccgtt ttccaatcng ggaaanctgt cgngcccact ggntttaang aatcggccan
                                                                       960
                                                                      1020
gcccccnggg gaaaaaagng gttgcnnatt gggccctttt tcggttcctt ggttantgga
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                                                                       180
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tttttttttt ttattaaaat actgagtttt atttcacatg tatatttttg tctccccacc
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                                                                       300
atttccatgt ctgaccaccg ctactactat gtcctatcat aacattccat acatacttaa
aaccaagcaa agggtggagt tccatcttta aaaactaaac ggcattttgg acaacacatt
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ttataaaaag gacagccaga tatcaactgt tacagaaatg aaataagacg gaaaattttt
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                                                                       900
catatcaaaa tenteateat cateanettt atnaanatee eetttaatna anateggnat
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tnatntttat tnagengeaa ggtttaettt ttttetgggg gaanetttgt taneceettt
cagggggcaa aaccggtttt ccaaaaatnc ccttaanaat ttnccaaanc cnccnccntt
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aactttccct accggtttgg ataaatgttg gncaggttct attgcccaag aatgtgtgnc
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ccaaaatgcc cgntagtttt tnaagatgga acttcacccn tttgcttggn tttaagtatg
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                                                                     960
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      \langle 223 \rangle n = A,T,C or G
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agcaatgaga tgaaatgttc aaagtgctga aagaaaaaaa aaggtcaacc aaaagtctta
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tcaggctaat aggctaggag catttggcac ctaacagtaa tttgaattta tatatatgtt
                                                                     420
tgtatacata tatatggaac actcatagag gtaattatat gaatagttat ataagacatt
                                                                     480
aaattgcata titttattit cicttaatic aaaataaatg cataaaacaa tatatgtata
                                                                     540
atagtgttga gcctataatg caaacaaaac taatatattt gacattaaga gcacaaaaga
                                                                     600
aataattgga gcaaagttgt attaaagaaa tgaaatgaca ctaagataca acttgaatca
                                                                     660
acaggaaaaa aatgaagaga accagaaatt gtaaagaata atgntaacat aacaatgcta
                                                                     720
atagttactt tgctttcctt tcttctctca tgntctttaa aagacataaa attacataaa
                                                                     780
aaccaagcat tataacaata taattttggg tttggaacat ggtagatgta tatatatata
                                                                     840
ccattattgg ataagtagaa taaataggac tattaaggaa ataatggtac tatggctcaa
                                                                     900
tgggantaag gtacctataa nggtgagcct gganaggaag natgttgnaa ggcttccggc
                                                                     960
                                                                    1020
aatoggttta gaaagtantt tggaaatata ttttnatnaa gngggttgga ttaatttagg
```

```
1024
aaaa
      <210> 67
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
qaqnnnnnt taactccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                        120
qctqqaattc qccctttcqa qcqqccqccc gggcaggtac ttttttttt ttttttttt
ttttggaaaa tgagattttt gactttaaca aaacaaatac agattgaatt taccaaatat
                                                                        180
                                                                        240
tqataattca tqtanaacgq qtqccacaga ttttaaagta tcaaaaccaa gagggcatca
caaaataaac tttggtgaaa aatatcttca tcaaagaaga aaatatgaga agagtagtcc
                                                                        300
ttatgcagtg aggagaaata tatttggtaa agtaaatatg ggtagtagat actgaatcta
                                                                        360
tagatagcat atattccaaa tgttttttag ggaatatcaa atcagatgat gcttanatgt
                                                                        420
tataqtaata tcacttatct catttqqaat gaaatttaat gttttttaat aaatagcaaa
                                                                        480
                                                                        540
ttttcatttt ttcactacct ttataaaaca aattaaatat ttagagtata actgatcata
actaacatca ccttqcattt actaataaat actctaaata catttggttt attattggaa
                                                                        600
tttatatcct tataatttta cctgctagaa attagtgacc ttgtggcatt atgtttaaag
                                                                        660
                                                                        720
tttacatttt cccagtgatg tgaacagtat ttatacntaa aatggatatc tgnccaatga
atagtaacca tgtttggtgg tttaaaaacc gnacatggtt tagtttgaca ttggcatgtc
                                                                        780
                                                                        840
tcttcaqaaa ttnaaaaqqt atcntttaag ggatggcttt tnggaaatca ttaataaact
accntctggg aaaangaatn ccaatttcaa gaagctacct aantagaact cagacccccn
                                                                        900
gggcagggtn ttggnanaaa angctttcaa ttncaaattn nttntccgnn gnaaaccgaa
                                                                        960
                                                                      1020
ngggaccett annngnntgg accneettte engnaaactg gttttaaaat aaaaatttee
                                                                       1024
annc
      <210> 68
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 68
gnngnnnnnn ntnnnttega attgggeeet etagatgeat getegagegg eegeeagtgt
                                                                        60
gatggatate tgcagaatte geeettageg tggtegegge egaggtaeet agtagateta
                                                                        120
                                                                        180
ctgagattaa acgggacctg tttggagcag aaccttttga cccatttaac tgtggagcag
cagatttccc tccagatatt caatcaaaat tagatgagat acaggagggg ttcaaaatgg
                                                                        240
gactaactct tgaaggcaca gtattttgtc tcgacccgtt agacagtagg tgctgacatc
                                                                        300
aaqaacaaqa aateetqatt catqttaaat gtgtttgtat acacatgtca tttattatta
                                                                        360
                                                                        420
ttactttaag ataggtatta ttcatgtgtc aatgttttta aatattttaa tattttgaaa
attttctcag ttaaatttcc tcaccttcac tattgatctg taatttttat tttaaaaaaca
                                                                        480
gettaetgta aagtagatea taetittatg tteettetg tttetaetgt agatgaattt
                                                                        540
gtaattgaaa gacatattat acaaatacct gccttgtgtc tgagttctat ttagttagca
                                                                        600
tottgaaatt tgtattcatt ttocagatgg ctagtttatt aatgatttoc caaaagccat
                                                                        660
accttaaaga taacttttta aattetgaag agacatgeca atggcaaact aaacatggtc
                                                                        720
tggttttaaa ccaaccaaca tgttactatt cattgggaca gatatcattt tatggataaa
                                                                        780
totggtcaca tactggggaa atggaaactt taaacataat ggccccangg cactaatttc
                                                                        840
ttaccggtaa aaatnttang ggtttaaant necatattna accenatggt tttaaaggat
                                                                        900
ttattntaaa ngcnngggga ngtanntttg acagtntncn ctaaaanttt aaatgggttn
                                                                        960
ttaaaggtnt gaaaaaanga aaaattgctt ttttttnaaa acctttaant cntttccnag
                                                                       1020
                                                                       1024
qqqn
```

```
<210> 69
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 69
gggnnnnnnn tnncttanac gccnngcttg gtaccgagct cggatcccta gtaacggccg
ccagtgtgct ggaattcgcc ctttcgagcg gccgcccggg caggtactcc ggtcggtgtc
                                                                         120
agcagcacgt ggcattgaac attgcaatgt ggagcccaaa ccacagaaaa tggggtgaaa
                                                                         180
ttggccaact ttctattaac ttatgttggc aattttgcca ccaacagtaa gctggccctt
                                                                         240
ctaataaaag aaaattgaaa ggtttctcac taaacggaat taagtagtgg agtcaagaga
                                                                         300
eteccaggee teagegtace teggeegega ecaegetaag ggegaattet geagatatee
                                                                         360
atcacactgg cggccgctcg agcatgcatc tagagggccc aattcgccct atagtgagtc
                                                                         420
gtattacaat teactggeeg tegttttaca aegtegtgae tgggaaaaec etggegttae
                                                                         480
ccaacttaat cgccttgcag cacatccccc tttcgccagc tggcgtaata gcgaagaggc
                                                                         540
cegeacegat egecetteec aacagttgeg cageetgaat ggegaatgga egegecetgt
                                                                         600
ageggegeat taagegegge gggtgtggtg gttaegegea gengtgaeeg etaeaettge cagegeecta egecegteet tregettret teeetteett tetegeeaeg tregeegget
                                                                         660
                                                                         720
ttccccgtca agetctaaat cgggggctcc ettttagggt tecgaattan tgetttacgg
                                                                         780
accttgaccc caaaaaactt gantanggtg atgggtcacg taatgggccc atnggccttg
                                                                         840
anaagacggt ttttcgccct ttgacngttg gagtccacgt tctttaaaag gggactcttg
                                                                         900
gttccaaact ggaacaaccn nttaancett atttnggget aateetttgg aattaatnag
                                                                         960
ggattttgcc caatttgggc ccttnggtta aaaaaagggg cttgntttaa ccaaaaattt
                                                                        1020
aacc
                                                                        1024
      <210> 70
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 70
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                                                                          60
atatotgoag aattogooot tagogtggto goggoogagg taogetgagg cotgggagto
                                                                         120
tettgactee actacttaat teegtttagt gagaaacett teaattttet titattagaa
                                                                         180
gggccagctt actgttggtg gcaaaattgc caacataagt taatagaaag ttqqccaatt
                                                                         240
tcaccccatt ttctgtggtt tgggctccac attgcaatgt tcaatgccac gtgctgctga
                                                                         300
caccgaccgg agtacctgcc cgggcggccg ctcgaaaggg cgaattccag cacactggcg
                                                                         360
gccgttacta gtggatccga gctcggtacc aagcttggcg taatcatggt catagctgtt
                                                                         420
tcctgtgtga aattgttatc cgctcacaat tccacacaac atacgagccg gaagcataaa
                                                                         480
gtgtaaagcc tggggtgcct aatgagtgag ctaactcaca ttaattgcgt tgcgctcact
                                                                         540
gcccgctttc cagtcgggaa acctgtcgtg ccagctgcat taatgaatcg gccaacgcgc
                                                                         600
ggggagaggc ggtttgcgta ttgggcgctc ttccgcttcc tcgctcactg actcgctgcg
                                                                         660
ctcggtcgtt cggctgcggc gagcggtatc aagctcactc aaaggcggta atacngttat
                                                                         720
ccacagaatc aaggggatac gcaggaaaga acatgtgaac caaaaggcca caaaaggcca
                                                                         780
ggaaccegta aaaaaggeeg egttggetgg egttttttee atangettee ggeeecettg
                                                                         840
acgagcatta ccaaaaatcg acgctcaagt tcaaaggtgg cgaaancccg accggactnt
                                                                         900
taagaatccc agcgtttncc cctggaactt ccttgggcgc ttttctggtt ccaaccttgc
                                                                        960
cgttaccgga tacctggncc gentttttcc ctttngggaa accngggent tntcaaaant
                                                                        1020
taac
                                                                        1024
      <210> 71
```

<210> 71 <211> 1024

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 71
gagnnnnnt taactcccgc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                          60
                                                                          120
gctggaattc gcccttagcg tggtcgcggc cgaggtactt ttttttttc ttttttaca
                                                                          180
tctgatttta atgcttcgtt aacttcaaaa ggaactggta gagttcagaa ggtgagctgt
tgtttttcta aacctcttcc caggaagggg acattgacac ttgaattttt gtcacctttt
                                                                          240
                                                                          300
tcctcattag aaggaaagta gaaagcctta ctgtaggatt tttaaaaaaa aatccatctc
                                                                         360
accocatatt ggtottaaat aagtatagac taattaacct aagctacctt taacaacgta
                                                                          420
gaatttagat gggttcatat atgtgagaaa aacctgaata taggacaggg gtcctacttt
                                                                         480
tttccccacc tctgtcgccc aggctagagt atagtggtgt gatcttggcc cactgcaacc
totgottoot aggttcaagt gattotootg cotcagooto coaagtagot gggattgtaa
                                                                          540
                                                                          600
gagtatgcca ccacgcccag ctactttttg tatttttagt agagacaggg tttcatcatg
ttggccagga tggtctctta actcctgccc tcaagtgatc caccagagag gagatcctcg
                                                                          660
gcctccccaa gtgctgggat tataggcatg agccaccgtg cccagcctac tttctaatta
                                                                          720
attaaaaaaa aaaaaaaaac ttcccaaatg agctgataaa aaactgacgt gaggctgctt
                                                                          780
                                                                          840
tgccttcaat aatacctagt tttcagctgt tccaactcgt ttccaaattg gaaattanct
ggaacnccac tacagtaatc ttcanggaan gggaaaatta ggccttaaaa gaatccccag
                                                                          900
                                                                         960
aaagttcanc atnggnancc tgnccnggcc ggnccgttca aaangggcna aatttgcaga
aattccatna cacttggcgg gccgttcgan catggctttt aangggccca attgnccctt
                                                                         1020
                                                                         1024
aaag
      <210> 72
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 72
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                                                                          60
tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta ccatgctgac
                                                                          120
ttettggtat ettttaagge etaattttee etteettgag attactgtag tgtgtteeag
                                                                         180
ctaattteta tttggaaacg agttggaaca gctgaaaact aggtattatt gaaggcaaag
                                                                         240
cagcctcacg tcagtttttt atcagctcat ttgggaagtt ttttttttt ttttaattaa
                                                                         300
ttagaaagta ggctgggcac ggtggctcat gcctataatc ccagcacttg gggaggccga
                                                                         360
ggatctcctc tctggtggat cacttgaggg caggagttaa gagaccatcc tggccaacat.
                                                                          420
gatgaaaccc tgtctctact aaaaatacaa aaagtagctg ggcgtggtgg catactctta
                                                                          480
caatcccage tacttgggag getgaggcag gagaatcact tgaacctagg aagcagaggt
                                                                         540
tgcagtgggc caagatcaca ccactatact ctagcctggg cgacagaggt ggggaaaaaa
                                                                          600
gtaggacccc tgtcctatat tcaggttttt ctcacatata tgaacccatc taaattctac
                                                                         660
gttgttaaag gtagcttagg ttaattaagt ctatacttat ttaagaccaa tatggggtga
                                                                          720
naatggattt ttttttaaaa atcctacagt aaggctttct actttccttc taatgaggaa
                                                                          780
aaaggtgacc aaaantcaag tggcaatggc ccctttctgg ggaaaagttt anaaaaacca ccggttanct tntggaactt ttacccagtt cccttttgaa gttaccgaag cctttaaaan
                                                                          840
                                                                         900
cagatgttaa aaaaggaaan nnnaaaaagt ncctttggcc gggaacccnc ttaagggcca
                                                                          960
aattecacac acttgggggg ccgntnccnt anggateeca nettgggnee aaannttggg
                                                                         1020
                                                                         1024
qnaa
      <210> 73
      <211> 1024
      <212> DNA
```

<213> Homo Sapien

<220>

```
<221> misc_feature
      <222> (1) ... (1024)
     <223> n = A,T,C or G
     <400> 73
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                                                                    60
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactgtgtt atggcacaga
                                                                    120
caatgcttgc ttageggtgc citgttacat aggtggatgc agagtgegca caegggatga
                                                                    180
tggcaataaa gacctcactc agtcgttgga atgaaggaac taggtaactg cttcaacaag
                                                                    240
                                                                    300
gacggtetea getetacett ateteteaac agagtgeaaa caetgagtgt gageteagat
gtcatcttgt tcctctttaa aattcaccaa attcttttgc acatttttct gttatagaga
                                                                    360
                                                                    420
cacqqatatc ttcttcttca tagtcatcaa agttgctggt atctccagag cctctaaact
ttggtatgaa tggagettea acetteetet ggtaaatage aatecaatet gtegtggeaa
                                                                    480
accacttqtq aqtttttata tcactqacac cattctttag atttccaaat ctcttgatca
                                                                    540
                                                                    600
ateggacett tecagaaaca atettteat aaatetgaat tggttggtet gcaaagaatg
                                                                    660
ggggatagec agetgecatt teatagatta geaetectaa tgeccaceaa tecaetgeet
                                                                    720
                                                                    780
tattgnagcc cttgctgaga attatttctg gagccaaata cctctggagt tccacataat
ggccaagttc tgcctttaac tcttttggca aaccccaaaa gtctgtgacc cgggatatag
                                                                    840
ccctgatggn ccaatttaag aagaattttc angggtttaa aaactctggt aaatgaaggc
                                                                    900
taanggaaat ggaggnacct ttttttttt nnnnnnnttt ttttttnaa acnttgtaaa
                                                                    960
aggecaaaat titggetana anttantite aaagnitnaa acentiteea aattititit
                                                                   1020
                                                                   1024
taat
     <210> 74
     <211> 1024
      <212> DNA
     <213> Homo Sapien
     <220>
      <221> misc_feature
     <222> (1) ... (1024)
      <223> n = A, T, C or G
     <400> 74
ggagnnnnnn nttgagttee ggeeetetag atgeatgete gageggeege eagtgtgatg
                                                                    60
                                                                    120
qatatctqca qaattcqccc tttcgagcgg ccgcccgggc aggtacagtc aactgcattt
ttctctggtg accaagette cactgacaag gaagaggatt atattegtta tgcccatggt
                                                                    180
                                                                    240
ctgatatctg actacatccc taaagaatta agtgatgact tatctaaata cttaaagcct
ccagaacctt cagcctcatt gccaaatcct ccatcaaaga aaataaagtt atcagatgag
                                                                    300
cctgtagaag caaaagaaga ttacactaag tttaatacta aagatttgaa gactgaaaag
                                                                    360
aaaaatagca aaatgactgc agctcagaag gctttggcta aagttgacaa gagtgggatg
                                                                    420
aaaagtattg ataccttttt tggggtaaaa aataaaaaaa aaattggaaa ggtttgaaac
                                                                    480
540
aaaaaaaaaa aagtacctcc attcactaga cctcatctac agagatctaa aacctgaaaa
                                                                    600
tetettaatt gaccateaag getatateea ggteacagae tttgggtttg ccaaaagagt
                                                                    660
taaaggcaga acttggacat tatgtggaac tocagagtat ttggctocag aaataattot
                                                                    720
cagcaagggc tacaataagg cagtgggatt ggtgggcatt aggagtgcta atctatgaaa
                                                                    780
tggcactggc tatccccatt cnttgcagac ccacccattc agaatttatt gaaaaagatg
                                                                    840
gttcttggaa ngnccgaatt cccattcccc ttcagntcna actcaagggc ccttttacgg
                                                                    900
aancetggtt geanggggga ttgateeagg anaatttgga aatettaaag aaaaggggne
                                                                    960
cggggtttta aaaacctcnc aagngggttt gcccccancg naatgggatt ggtttttccc
                                                                   1020
                                                                   1024
ccna
     <210> 75
     <211> 1024
     <212> DNA
     <213> Homo Sapien
     <220>
```

<221> misc_feature

<221> misc_feature <222> (1)...(1024)

```
<222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 75
gagnnnnnnt taactcccgc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                        60
                                                                       120
gctggaattc gcccttagcg tggtcgcggc cgaggtacta tatgtatttt attaaaaatg
tggaagatta atctgtttct ctctgaatgt agattttcac caaaacatct cttaaaacag
                                                                       180
                                                                       240
cagggactca acacttaaaa atgaactaga agagctgggc acagtggctc acgcctgtaa
tcccagcact ttgggaggcc gaggcgggca aatcacttga ggtcaggagt tcgagaccag
                                                                       300
cctggccaac atggtgaaac cctgtctcta ctaaaaacac aaaaattaac tgggcatggc
                                                                       360
ggcacacgcc tttaatccca gctactcaag aggctgaggc aggagaatcg ctttgaacct
                                                                       420
gggaggcaga ggttgcagtg tgctgagatc ataccactgc attccagcct gggcgacaga
                                                                       480
gcaagactcc acctcaaaaa aaaaaagaag aaaagaaaat agtagtctca gccaggcgtg
                                                                       540
atggctcaca cctgtaatcc cagcactttg ggaggccaag gtgggcagat cacctgaggt
                                                                       600
caggagtteg agaccageet ggeetaegtg geaaaacete atetetaata aaaatacaaa
aattagettg ggegtggtgg catgeacetg teateceage tatttgggag getgagaeag
                                                                       720
                                                                       780
gagaagtcgc tttgaacctg ggangcagaa aattgcggtg aagctaagat cgcacgactt
cacttccacc tgggcaaaag anggaactct atctcaaaaa aaaaaaangg aaaaagtagt
                                                                       840
                                                                       900
ctntaagaca ctgggcaaac cttgaaagga attgagcagt cctcactttn ctgnagtcan
tttgntnaat gccacatggc tcttttgnaa gaaatttgag agettttttc taatcccaat
                                                                       960
                                                                      1020
ttttntaatt tgggaattcc tttttccgga ttttttcntt gccnggnggt gttcccaang
                                                                      1024
acct
      <210> 76
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 76
qnnqnnnnn ttnnnttgng antngggccc tctagatgca tgctcgagcg gccgccagtg
tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta ctctttgtgg
                                                                       120
                                                                       180
ctggcttctt tttctgcaca caatgcctat gagaccataa ctaaagtcaa attccatggt
cactaaccaa taatggcatc tcaaagaaat tccaacctag agaaattctg atgatgtggt
                                                                       240
                                                                       300
tagaacacca atcaggacac tcacttcatg gttgataatt cccgacatgc actgattcag
                                                                       360
acccagetta ttgaatteat tgagteeaca ggeeageact ttgeetgaet gggteaacag
                                                                       420
aaatgtccca tcacagccac attgaactgc aacaataatc aaggccttgg gaacatccac
ctgcaagaaa aaaatcagaa aaagaaatcc caaatatata attcgtatta gaaaaaaaagc
                                                                       480
                                                                       540
totcaaatto tttcaaaaga gacatgotgo atttagoaga atgactacag gaaagtgagg
actgctctat tcttttcagg tttgcccagt gtcttagaga ctactttttc ttttttttt
                                                                       600
                                                                       660
tttgagatag agtttccctc ttttgcccag gctggagtga agtccgtgcg atcttagctc
accgcaatct ctgcctccca ggttcaagcg acttctcctg tctcagcctc ccaaatagct
                                                                       720
gggatgacag gtgcatgcca ccacgcccag ctaatttttg gatttttatt agagnatgag
                                                                       780
gttttgccac gtaggccaag ctggncttga acttctgacc ctcaagtgac tggccaccct
                                                                       840
tgggccttcc aaagtgctgg gaattacagg gngagccatt acgcctggnn tgaaactcca
                                                                       900
                                                                       960
atttetttte ttenttttt ttttggnggg gagettgetn tgeneceaag etgggaaage
cangggatga cttnnnncac tggaacettg getteaggtt taaagggatt tetggettaa
                                                                       1020
                                                                       1024
      <210> 77
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
```

<220>

<221> misc_feature <222> (1)...(1024) <223> n = A,T,C or G.

$\langle 223 \rangle$ n = A,T,C or G

```
<400> 77
                                                                          60
gagnnnnnt aacttacacg cocgettggt accgageteg gatecactag taacggooge
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactttttt ttttttttt
                                                                         120
ttttttttac agaaggetgt aaagetttat tgggagaatt ttaatgaaca aatttccaac
                                                                         180
ataggagcag cotgoatcat ttcaacgtgc cttcttttaa cactgtgatt gcttttcacc
                                                                         240
ttottcagge gttttcacct cototggatt tggcgggtcc atctcctgcc catcaggacc
                                                                         300
atottcacae teacacecag tetgtgggtg accetgttee tggetatgag etteaggett.
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eggecettga cetgeanatg eteceteate etetecetee tgageagetg eaggateetg
                                                                         420
acgttgagtt gctggttccc cttcttcagg tgttgctggt tccgcttcat cactgaactg
                                                                         480
ctcgggccgc ataggcccaa tcatttcagg aggctgnacc tgcccgggcg gccgntcgaa
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agggcgaatt ctgcagatat ccatcacact ggcggccgnt cgagcatgca tctagagggc
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ccaattcgcc ctatagtgag tcgtattaca attcactggc cgtcgtttta caacgtcgtg
                                                                         660
actgggaaaa coctggcgtt acccaactta atcgccttgc agcacatccc cctttcgcca
                                                                         720
gctggcgtaa taacgaaaag ccccgcaccg atcgcccttt ccaacagttg cgcancctga
                                                                         780
aagggcnaaa tggacnccc tggaacggcc attaaccccc genggnnnnn gggtacccen
                                                                         840
caangngace ggtacacttg gcaangeest aacgeeggt centitignit tiettieett
                                                                         900
                                                                         960
tenttttnge aegttnnnce gggttttece ggnaagetnt naaatngggg ggteecentt
tngggtccna ataaggcntt tagggncctt ggnccccnaa aaatttgntt ttnnggggan
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                                                                        1024
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      <221> misc_feature
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                                                                         120
ttgggcctat gcggcccgag cagttcagtg atgaagegga accagcaaca cctgaagaag
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gggaaccagc aactcaacgt caggatectg cagetgetea ggagggagag gatgagggag
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catctgcagg tcaagggccg aagcctgaag ctcatagcca ggaacagggt cacccacaga
ctgggtgtga gtgtgaagat ggtcctgatg ggcaggagat ggacccgcca aatccagagg aggtgaaaac gcctgaagaa ggtgaaaagc aatcacagtg ttaaaagaag gcacgttgaa
                                                                         360
                                                                         420
atgatgcagg ctgctcctat gttggaaatt tgttcattaa aattctccca ataaagcttt
                                                                         480
acagcettet gtaaaaaaaa aaaaaaaaaa aaaaaagtac eteggeegeg accaegetaa
                                                                         540
gggcgaattc cagcacactg gcggccgtta ctagtggatc cgagctcggt accaagcttg
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gcgtaatcat ggtcatagct gtttcctgtg tgaaattgtt atccgctcac aattccacac
                                                                         660
aacatacgag cccggaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact
                                                                         720
cacattaatt gegttgeege teaetgeeeg etttneagte gggaaacetg tegtgeeage
                                                                         780
tgcattaatg aatcggncaa cgccccgggg aaaaagcggt ttgcgtattg ggcgctcttc
                                                                         840
getttettgg ttacttgact enttgngeet tggeegtteg gttgeggnna aeggttteag
                                                                         900
cttacttcaa angegggaaa teeggtttte eneggaaate aggggaatae eeenggaaaa
                                                                         960
gaacttgtga accnaaaggc conccaaaag gccongnaac cgtaaaaaan ggcccontnn
                                                                        1020
nntn
                                                                        1024
      <210> 79
      <211> 1024
      <212> DNA
      <213> Homo Sapien
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60

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                                                                         120
                                                                         180
gettettet ecaggaaaga teaaaaegat geactgeaag gttaacatee aatttttaat
acattgtgat tggtccagat agctgcctta tccaactgcc tcctttggac cacttcatca
                                                                         240
                                                                         300
tgggacaget tgatgcaate taettgacaa gaccetggaa eeccacacee etcatggaac
cagtgtecae eteccagtea cagtgtgace ecagggaact ettgeetget tgetttaaac
                                                                         360
ccaccactta aaagtotoca cagaaaacot gtttgaatag tacctcggcc gcgaccacgc
                                                                         420
taagggcgaa ttctgcagat atccatcaca ctggcggccg ctcgagcatg catctagagg
                                                                         480
                                                                         540
gcccaattcg ccctatagtg agtcgtatta caattcactg gccgtcgttt tacaacgtcg
tgactgggaa aaccetggeg ttacccaact taategeett geageacate eccetttege
                                                                         600
                                                                         660
cagctggcgt aataagcgaa gaggcccgca ccgatcgccc ttcccaacag ttgcgcagcc
tgaatgggcg aaatggacgc gccctgtagc ggcgcattaa gcgcgggcgg gtggtgg
                                                                         720
                                                                         780
ttacgccgca gcgtgaccgc tacacttgcc agcgccctta cgcccgctcc tttcgctttc
ttcccttcct ttttngcacg ttcggccggc ttttcccgtc agctctaaat cgggggctcc
                                                                         840
                                                                         900
cctttagggt tccgaattan tgctttacgg gaccttganc cccaaaaact tggnttaggg
gtgagggtca cgtatgggcc attggccctg aaaanacggt ttttcgcccc tttgaccctt
                                                                         960
ggaatcncgt nnttttaaaa ggggactttg gtcccaactg ggacaacnnt taacccctta
                                                                        1020
                                                                        1024
ttng
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      <211> 1024
      <212> DNA
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      <220>
      <221> misc_feature
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      \langle 223 \rangle n = A,T,C or G
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                                                                         120
gttttctgtg gagactttta agtggtgggt ttaaagcaag caggcaagag ttccctgggg
                                                                         180
                                                                         240
tcacactgtg actgggaggt ggacactggt tccatgaggg gtgtggggtt ccagggtctt
gtcaagtaga ttgcatcaag ctgtcccatg atgaagtggt ccaaaggagg cagttggata aggcagctat ctggaccaat cacaatgtat taaaaattgg atgttaacct tgcagtgcat
                                                                         300
                                                                         360
cgttttgatc tttcctggag aaagaagctg gtgcaaatga caaaaacagt acctgcccgg
                                                                         420
geggeegete gaaagggega attecageae actggeggee gttactagtg gateegaget
                                                                         480
cggtaccaag cttggcgtaa tcatggtcat agctgtttcc tgtgtgaaat tgttatccgc
                                                                         540
tcacaattcc acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaat
                                                                         600
gagtgageta acteacatta attgegttge geteactgee egettteeag tegggaaace
                                                                         660
                                                                         720
tgtcqtqcca qctgcattaa tgaatcggcc aacgcgcggg gaaaagcggn ttgcgtattg
ggccgctctt negettnetn gettaettga etegettgeg ettegneegt teggettgeg
                                                                         780
                                                                         840
gcnaageggt attcagetta ettcaaagge ggtaaataen ggtatteece agaaateagg
gggatnaccc enggaaaaga acatgtgaan ccaaaaaggec accaaaaagg nennggaacc
                                                                         900
                                                                         960
gtnaaaaang gcenenttnn nnetgngttt ttccattaag gttcccgccc ccttgacagc
                                                                        1020
ctttccaaaa attcganncc ttcaaantnc aaagggggcn aaaaccccnc cggggctttt
                                                                        1024
taag
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
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ttttgttgtt tcatttttt ctaatgtete ceetetacea geteacetga gataacagaa
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tgaaaatgga aggacagcca gattteteet ttgetetetg eteattetet etgaagteta
                                                                      240
ggttacccat tttggggacc cattataggc aataaacaca gttcccaaag catttggaca
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gtttcttgtt gtgttttaga atggttttcc tttttcttag ccttttcctg caaaaggctc
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actcagtccc ttgcttgctc agtggactgg gctccccagg gcctaggctg ccttcttttc
                                                                      420
catgtcccac ccatgagccc tccactggac agetcagtaa geetggccct tcattctgcg
                                                                      480
ctgtgttctt cctctgtgaa aatccaatac ctcttacctc ctctqcatgc aaagattctc
                                                                      540
aaggattgtc agacttcaaa cgtaacagca gaaccaccag aaggtcctat aaatgcagta
                                                                      600
gtgacettet caagetgtea ggtetttaaa taggatttgg gatttaatge tatgtatttt
                                                                      660
taaaggaaag aaataagaag ttgctagttt taaaaatgca tgtcttttaa ccaattcaga
                                                                      720
atctgccccc aaactttttt naaaagtcaa gacagataaa gctttggggg agacngaaaa
                                                                      780
aaaaaannnn nnnaaagagt acettnggee gggaacaege taangggeaa attetggean
                                                                      840
aaatncatta cactgggcgg gcggtttgag cattgentnt anangggccc aattngncct
                                                                      900
ataanggggg cgattacaat tncctgggcc gcgttttaaa acgtnngaac tgggaaaanc
                                                                      960
ctggggtncc cacnttaatg gccttggnga naatccccct tttncccnan tggngnannn
                                                                     1020
nncn
                                                                     1024
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
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atatetgeag aattegeest tagegtggte geggeegagg tactetttt titttttt
                                                                      120
ttttccgtct ccccaaagct ttatctgtct tgacttttta aaaaagtttg ggggcagatt
                                                                      180
ctgaattggc taaaagacat gcatttttaa aactagcaac tcttatttct ttcctttaaa
                                                                      240
aatacatago attaaatooo aaatootatt taaagacotg acagottgag aaggtcacta
                                                                      300
ctgcatttat aggaccttct ggtggttctg ctgttacgtt tgaagtctga caatccttga
                                                                      360
gaatetttgc atgcagagga ggtaagaggt attggatttt cacagaggaa gaacacagcg
                                                                      420
cagaatgaag ggccaggctt actgagctgt ccagtggagg gctcatgggt gggacatgga
                                                                      480
aaagaaggca gcctaggccc tggggagccc agtccactga gcaagcaagg gactgagtga
                                                                      540
gccttttgca ggaaaaggct aagaaaaagg aaaaccattc taaaacacaa caagaaactg
                                                                      600
tecaaatget ttgggaactg tgtttattgc ctataatggg tececaaaat gggtaaccta
                                                                      660
gacttcagag agaatgagca gagagcaaag gagaaatctq gctqtccttc cattttcatt
                                                                      720
ctggtatctc aggtgaactg gtaaaaggga gacatttgaa aaaaatgaaa cnaccaaaac
                                                                      780
cattactaat gaggtacctg cccnggcngg ccgttcnaaa gggccaattc cacacactgg
                                                                      840
geggeegtta ettaatggat eenaactegg taccaanent tgegtaaate atgggeennt
                                                                      900
actgggttnc ctgggggnaa atggtatncg gttaccaatt ccccccaann ttcgancccq
                                                                     960
gaanccctta agggtaaanc cctgggggcc ctnaagaggg gctaacttcc catttaaatg
                                                                     1020
ggtt
                                                                     1024
     <210> 83
      <211> 1024
      <212> DNA
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      <221> misc_feature
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     <223> n = A,T,C or G
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ccagtgtgct ggaattcgcc ctttcgagcg gccgcccggg caggtacact taaaattggt
                                                                     120
180
```

```
aaaaaaaaaa atttaatttt taaaaattag tggtatggca ataagacact tcagaggcta
tottaacctc tgaataccca tottotagtt taaagacaga gacatcccat ctggaaaatg
                                                                       300
ttaacttgtg ttgtcatctc gttgccggag taagtagaca taagacagag tttaagaagt
                                                                       360
aaaaatatag aaaaattttg atggtcacaa tgagataaat attagaatat tactattcca
                                                                       420
                                                                       480
atgattaaat gaggatottg aaataaatto tgaagtotto caatttttac atttattgga
ggggtccctg agttctgtca acttttttat ttaagtctct tgctcttatt ttgtgcataa
                                                                       540
atgttaaacc ttccaaaaat gaaatgttag ctttctttct tttacttttt attaaattta
                                                                       600
atagaaaata tgacctgagt agttaaaaag tattttgcat tatttgcagt aagatgtctc
                                                                       660
                                                                       720
tagcactgct caaagggcaa attttaaaac ttcagtctgg gtgaaagatt ttgctagttt
tacagaaaga tttgctatct taaactcaaa gctggttttt cttttctcaa tgtaagtgac
                                                                       780
                                                                       840
tgggatgctg gcttaagaat tctttccaag gncatgtttg tgaaataaac cttacatgag
agettteetg neatetaene etatatgtgg cetngaggtt gaccaaattt antttagntt
                                                                       900
                                                                       960
ctaagtgtaa nctatcccaa atgggctatc caaatttgaa tggngccctt catactgnga
aggaaaaang tggncctngg ccgggaacac ccttangggc caattttgcg anttccntac
                                                                      1020
                                                                      1024
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      <211> 1024
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      <221> misc_feature
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                                                                         60
tatotgoaga attogocott agogtggtog oggoogaggt acagcattat catotoagta
                                                                        120
tgtagtggca cacattcaaa atcgtataga ccatatgagg atagattaca acttagaaac
                                                                        180
taaaataaat ttgttcaaca ctccagacaa catatagtgt agatgacagg aaagctctca
                                                                        240
tgtaatgttt atttcacaaa catgacettg gaagaattca taagacagca teecagtcae
                                                                        300
ttacatqaqa aaaqaaaaac caqcttgagt ttaagatagc aaatctttct gtaaaactag
                                                                        360
                                                                        420
caaatctttc acccagactg aagttttaaa atttgccctt tgagcagtgc tagagacatc
ttactgcaaa taatgcaaaa tactttttaa ctactcaggt catattttct attaaattta
                                                                        480
ataaaaagta aaagaaagaa agctaacatt tcatttttgg aaggtttaac atttatgcac
                                                                        540
aaaataaqaq caaqaqactt aaataaaaaa gttgacagaa ctcagggacc cctccaataa
                                                                        600
                                                                        660
atgtaaaaat tggaagactt cagaatttat ttcaagatcc tcatttaatc attggaatag
taatattcta atatttatct cattgtgacc atcaaaattt ttctatattt ttacttctta
                                                                        720
                                                                        780
aactctgnct tatgnctact tactccggca acgagatgac caccacaagt taacattttc
cagaanggat gtctctgnct ttaaactaga aagatgggta tttcagaggg taagaatacc
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ctctgaagtg gtcttaatgg cataccccta atttttaaaa antaaaattt ttttttttt
                                                                        900
tgggangggg aaggetggat tteetttene ttaacetnga gggtatatee cetgnttggg
                                                                        960
acceaatttt aagngnacet ggeeeggen ggeegtteaa aagggegaat tteegeneet
                                                                       1020
                                                                       1024
gggc
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      <212> DNA
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      <221> misc_feature
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getggaatte geeetttega geggeegeee gggeaggtae geggggagag agaagegagg
                                                                        120
                                                                        180
ttctcgttct gagggacagg cttgagatcg gctgaagaga gcgggcccag gctctgtgag
gaggcaagac acagtgggtc gcaggatctg acaagagtcc aggttctcag gggacaggga
                                                                        240
gagcaagagg tcaagagctg tgggacacca cagagcagca ctgaaggaga agacctgcct
                                                                        300
```

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gtgggtcccc atcgcccaag tcctgcccac actcccacct gctaccctga tcagagtcat
catgoctoga gotocaaago gtoagogotg catgootgaa gaagatotto aatoccaaag
                                                                       420
                                                                       480
tqaqacacaq gqcctcqagg qtgcacaggc tcccctggct gtggaggagg atgcttcatc
atocactico accagotoct ottitocato ototiticos tectocicit ticotocico
                                                                       540
                                                                       600
tectectget atectetaat accaageace ceagaggagg titetgetga tgatgagaea
ccaaatecte eccagagtge teagatagee tgetectece eteggtegtt gettecette
                                                                       660
                                                                       720
cattaqatca atctqatqaq qqctccagca gccaaaagga agagaagtcc cagcacccta
caggteetge cagacagtga gtetttacee agaagtgaga tgatgaaaag gngactggat
                                                                       780
                                                                       840
tngqtqcaqt ttctqntntt taagtntcaa atgaanggaa ccgatcncaa anggccgaaa
tncttggaaa agtgncntna aaaaattatg aagaacnntt tcccttggng gttaangaaa
                                                                       900
                                                                       960
cccctccaan genngenngn nggnetttgg genttgangn nnaanggnaa gggateeeen
ttgggccnnt tentttggcc ttggnnncct ncctngggcc ctancttnng aaggggaanc
                                                                      1020
                                                                      1024
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      <211> 1024
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      <221> misc_feature
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gtgatggata totgoagaat togocottag ogtggtogog googaggtac tocaggtagt
                                                                       120
                                                                       180
tttcctgcac ccaatcttgg gtgagcagct tcctgggctc cccataaatg aggtgctcca
teccateata eageceeate atatteagtg etteccagat gaceteetea ggggtgcagt
                                                                       240
                                                                       300
agccctctat gaagattatg cttaggataa gtatgagaat gccagtcttg ggcatgctct
ggacatcact cagcatccca tcataggtga ggcccaggga ggtgacaagg acaaaggagt
                                                                       360
                                                                       420
ggccagtggg atccacttcc tttacatcaa tgccaaagac cagcagcatg cactcggagg
cttcactaaa caacaaaggg aagtggtott cataattttt tatgacactc tocagtattt
                                                                       480
ctgcctttgt gatcggctcc ttcatttgat acttgaagag cagaaactgc accaaatcag
                                                                       540
tcaccttttc atctatctca cttctgggta aagactcact gtctggcagg acctgtaggg
                                                                       600
                                                                       660
tgcttggact ctcctcttt tggctgctgg agccctcatc agattgatct aatggaaggg
aagcaacgac cgagggggag gagcaggcta tetgagcaet etggggggagg aattggtgte
                                                                       720
                                                                       780
tcatcatcag cagaaacctt ctctggggtg cttggtatta gangatacag gaggaggagg
angaagaaga ngaagaagga aaagaggatg gaaaagaagg actgggtgga aatggatgat
                                                                       840
                                                                       900
gaagcatnot tottcacage ccaggggaac etgtgcacce ttnaagggdc tgggggettac
ttttgggaat tgaagaactt ntttaggent gecanngntt taccettttg gancettnag
                                                                       960
                                                                      1020
qqcctnaaqn acctttqanc anqqqnnncn nnnnnnngga attgggcncg gaaatttggg
                                                                      1024
ccna
      <210> 87
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
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cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtacattgag accagcaata
                                                                       120
gttccagcat ctttggtagc ctgacgctga gagtcattaa agtaagctgg cactgtgacc
                                                                       180
acagcattgg taacagtett cecaaggtag gettetgeaa ttteetteat etttgtcaga
                                                                       240
accatagaaq acacctcctc tggatagaag cttttggtct ctcccttgta ttctacttgg
                                                                       300
accttgggcc tgccagcatc attcaccacc ataaagggcc aatgtttcat atcagactgg
                                                                       360
acaacagcat catcaaatct gcgtccaatc agacgtttgg catcaaaaac tgtgtcggtg
                                                                       420
```

540

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gggttcattg caacttgatt ctitgcggca tcaccgatca accgttcagt gtccgtaaag
gegacatage ttggagtggt teggttteee tgateattgg caattatete gaetttteeg
                                                                       540
tgctggaaaa cacccacaca agagtaggtg gtgccaagat caataccaac tgcaggtccc
                                                                       600
                                                                       660
ttggacatgg ttgctgggat gtaggcctgg ctccaataac gaaggaagcc acaaaaaccc
aagagetgea ggegaagtee aatgagaeee eeegeggaee tgeeegggeg geegetegaa
                                                                       720
                                                                       780
agggcgaatt ctgcagatat ccatcacact ggcggccgnt cgagcatgca tctaganggc
ccaattcgcc ctataagnga gtcgnattac aatcacttgg ccgcgtttta caacgtcgtg
                                                                       840
                                                                       900
acttgggaaa accctggggt acccaactta atcgnettgn agcacaatcc centtinnec
anctggcgga antnaccnaa aaggcccgna ccgaacggcc ntttccaaaa gttgcncaan
                                                                       960
                                                                      1020
cctgaaangg caaaaggacc cccccttta acggggccat taaacccccn ncngggnnnn
                                                                      1024
nngg
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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      \langle 223 \rangle n = A,T,C or G
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                                                                        60
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totgoagaat togocottog agoggoogeo ogggoaggto ogoggggggt otcattggac
tegectgeag etettgggtt tttgtggett cettegttat tggagecagg ectacatece
                                                                       180
agcaaccatg tocaagggac otgoagttgg tattgatott ggcaccacct actottgtgt
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                                                                       300
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cgaattneag cacactggcc ggccgntact taatggatcc gaactcggta ccaagccttg
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cgtaatcatg gnccatactg gttnctgngg tgnaattggt attccggtca caattncnca
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caacatteca anceggaage ettnagtgta aageeetggg tgeeettaag agtgagetta
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ctnncantta aatgegttge gettnnttgg eegtttteea tegggnaaan etgengeeaa
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ttcacagtgc tgtgcaaaac atttctatct tgcaaaaccg aagttctata tccactaaac
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aactoogoat tittoottoto occagoooot gooaactgoo attotactit etgittotot
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atatttgact acactagaca cetcatacaa gttaaatcag agagtatttg tttttttgtg
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actggtttct ttaaacttag cataacatcc tcaagatcca tcaatagtct atcatgtatc
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atgtattact totttttaa ggttgaacaa tattccactg tgtgtgtgtg tgtgcacgtg
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talaccacqt tttqtttaqc cattcqtcca tcaatggaac ttgggttget tcgacccttt
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                                                                         720
gtattcatta ttgcaagaac agcatcaaac catgaggctt canceegtgg cecaaacacc
                                                                         780
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actaatggtc atttacaaat tcaaacatga gataaagtat ttggtgatat gtccatcaag
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tataactcag aaatcagtaa acaagtettt teecaaagta agtteettet aaatgtaget
                                                                         240
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ttggattgtg ttaaacatat gtctgttagt gaaagtgtta gtcacaaaga taaaatttca
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ttotgtaaac ttttagttot ttataagggt tgtgatatca tttaaaaaatt tttctgtatt
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gccacggggg tggagcctca tggtttgatg ctgttcttgc aataatgaat actcatggga
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tggcatgcct gctcctgcct caccttcacc atgagtnaaa ggncctgang cctcccagaa
gecangeaga tgecancane attgettgga tageetgean aaettettt etttataaaa
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aaccaaccca ggtccattgg nngggcnaag gnttaacnaa acgnggnntc centgenena
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atataggctg gttcatcaaa taaagcaaaa ccttgcaata tcagctagat ttacactccg
                                                                         180
ggacgttgcc caaaggtagg aagaaagcag agggaaatat ttcagtcatc atttccaaag
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tcattatcaa aatctgtgag gaagtttaat cttccaaaga gtcaatgtca gacatcaggc
                                                                         300
ctctgttgcc tgcttctctc gaggcactag attaggagtc ttcaataaga gacttaacat
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gaggtatatg gaagatgagg caccgagata agttcatcat taggtgtgag cactgctcac
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ccttgctggc aagttctcct taagggcctg aagcacaggt gtccaaagaa aagcgttaag
                                                                         480
tocatottaa tagaatotat gtggtatatg atgtggtcag cocctggtct gtgatcagca
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agaacctaca gcacagatta tgccctgccc acttcaatga atacctactc tcctccattc
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tccatcactt tttttgctat caagaactcc ggaccttgcc catgggagaa gtttagagag
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gaactettgt ggagaactgg tttattttet geeetgtgee gaegagttte agetggeeaa
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aaattaagtc aagaagaccn ttttgggaat gtngactatg gatnccctcc taatngaatg
                                                                       900
gagnageett aaaaaggggg caangtaang gttttenggt atggaageea aaanttttne eggetnaatg ggntggntnn ceaatattnn taceggeeen aaangggnnt tttnennngg
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tgaaatgatg tgtagatttc aatctaataa cagctcatcc aaatgacaaa tatggtcgaa
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                                                                        900
                                                                        960
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ngcaggccac aggctanaaa ctgtagtcnc ccgacattac aagccaattt gggnctgtgg
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ggnggnccgt ttnaacctgc cttttaaagg gcccaattnn nccctntnna nnggagcgan
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                                                                         180
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tcggcgacta cagtttctag cctgctggcc tgccttcact gtcctggggg aagctcgggg
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                                                                         300
accacgagee tecageeeat tttecaacaa ecacecatea acaccaaaga ggtteecaag
                                                                         360
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acaacccaga agggaaaagg gacccgtcaa ggaagttcca ggaacaaaag gctctcccta
aaagaccacc gcttcaaaaa aacctgagga atggagtggg ccaacactat ccagccactc
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gaccaccgcc ttctccagtg cttccttggg cagccagtaa ttcccaggca aggccagaga
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caactegnne caaannttgn gnaaacatgg gnnnanatgg gnteetgggg ggaaatgtat
                                                                         960
                                                                        1020
ccgnttacaa nttcccncaa nntncnaanc cggannncnt taagggtaaa nnccctgggg
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gccc.
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                                                                          540
                                                                          600
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                                                                          720
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                                                                          780
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caatttnant gggccgcgtt ttacaacqtn nggaactggn aaaacccctg gggtnnccca
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cnna
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gttttgttgt ttcatttttt tctaatgtct cccctctacc agctcacctg agataacaga
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                                                                       240
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cactcagtcc cttgcttgct cagtggactg ggctccccag ggcctaggct gccttcttt
                                                                       420
ccatgtecca eccatgagee etceaetgga cageteagta ageetggeee tteattetge
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getgtgttet teetetgtga aaateeaata eetettaeet eetetgeatg caaagattet
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caaggattgt cagacttcaa acgtaacagc agaaccacca gaaggtccta taaatgcagt
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aaaaaannnn aaaaagtacc tgcccgggcn ggccgttcna aagggcgaaa ttcaacacac
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taactgggtt cccggggggn aaatggtatt ccggttacaa attcccccc annttccana
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eceggaaane enttaagggt aaaaneeetg ggnggeeena angggggget naceteeeet
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                                                                       1024
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      <211> 1024
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ggcnttggag nacaatteee etttttneea anntggggna antnaceaaa agggeeeenn
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accgatggnc cttttncaaa aagttgggcc aaccttgaaa gggcaaaagg gccccccct
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1024
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                                                                        60
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ccctttcgag cggccgcccg ggcaggtaca gataaatccg tgcatgcatt gagggagact
                                                                        120
agagggtaaa atgaaatctg ccccatcctt cttacataca cagtgatagc attttgaatt
                                                                        180
gttcttctac atttgaaatc ttagctgaaa gatcatcagc caccgacctt ttgtgaagct
                                                                        240
                                                                        300
agttetetag aacatacaat gttttttaaa aaattaaaaa cacagaagga aaaaagcaag
aaccaacgat aaatggaget tgtgcagaat etggcagtge tgtggacetg eecatetgtt
                                                                        360
ctcccccgcg tactgactga acacactccc cgctttggtt cctgtaggac gggtgagata
                                                                        420
ccacaccttg gcaaccacca gtaaaggctc atagtctagc ccttgggagg ccccgatttt
                                                                        480
agggetgtge teggaggega cetaegttag ggaetgggag aagegggtae eteggeegeg
                                                                        540
accaegetaa gggegaatte tgeagatate cateacaetg geggeegete gageatgeat
                                                                        600
ctagagggcc caattcgccc tatagtgagt cgtattacaa ttcacttggc ccgtcgtttt
                                                                        660
acaacgtcgt gactgggaaa accetgccgt tacccaactt aatcgccttg cagcacatcc
                                                                        720
ccctttcgcc agctgcgtaa taacgaaaag cccgnaccga tcgccctttc cacagttgcg
                                                                        780
caacetgaat ggcnaatgga cececettg taceggegea ttaaceneen geeggntnnt
                                                                        840
ggggtacccc cacgtggacc ggttcacttg gccagggccc taangnccgg ttcntttggt
                                                                        900
                                                                       960
ttottnoott contitting occyttaged aggittitice ogtaagetti taaannaggg
                                                                       1020
getteecett ttangggtee aaataanget ttacgggnee tttaaccece aaaaaaattt
                                                                       1024
nnnt
```

```
<210> 100
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C \text{ or } G
      <400> 100
gggnnnnnn ttnngtteng aattgggeee tetagatgea tgetegageg geegeeagtg
                                                                         60
                                                                        120
tgatggatat ctgcagaatt cgcccttagc gtggtcgcgg ccgaggtacc cgcttctccc
aqtecetaac qtaggteqee teegageaca geeetaaaat eggggeetee caagggetag
                                                                        180
actatgagec tttactggtg gttgccaagg tgtggtatet caccegteet acaggaacca
                                                                        240
aagegggag tgtgttcagt cagtacgegg gggagaacag atgggcaggt ccacagcact
                                                                        300
gccagattct gcacaagctc catttatcgt tggttcttgc ttttttcctt ctgtgttttt
                                                                        360
aattttttaa aaaacattgt atgttctaga gaactagctt cacaaaaggt cggtggctga
                                                                        420
tgatctttca gctaagattt caaatgtaga agaacaattc aaaatgctat cactgtgtat
                                                                        480
qtaaqaaqga tggggcagat ttcattttac cctctagtct ccctcaatgc atgcacggat
                                                                        540
ttatctgtac ctgcccgggc ggccgctcga aagggcgaat tccagcacac tggcggccgt
                                                                        600
tactagtgga tecgageteg gtaccaaget tggegtaate atggteatag etgntteetg
                                                                        660
tgtgaaattg ntatccgctc acaattccac acaacatacg agcccggaag ccataaagtg
                                                                        720
tnaaageeet ggggtgeetn atgagtgage taacteacat ttaattgegt tgcgctcact
                                                                        780
ggcccgnttt cagtcgggaa aactgcntgc cactgcttaa tgaatcggcc acgcccggg
                                                                        840
gaaaaagegn ttgegtantg ggegetntte egetttettg gttaactgae tenttggget
                                                                        900
ttggccttng gnttnnggnn aacgggttna acttncnttn aaangggggn naatccggtn
                                                                        960
tneccegaaa nneggggata acceeeggaa anaactttgn cenaaaggee eeenaaangg
                                                                       1020
                                                                       1024
      <210> 101
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 101
gggnnnnnnt tgaatnacac gccagcttgg taccgagctc ggatccctag taacggccgc
                                                                         60
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtacgcgggt attttcttaa
                                                                        120
atttcttgaa tgttctttat ggtagtgtta ctaaaaagtt tatgatcaca ttttcattgt
                                                                        180
gaacataatt tgaactcatt atcacacact tggaaaatac agaaaagtgg aggaaaaaaa
                                                                        240
atcatatccc caccatccaa agacatatac tetectetta tettgttcat tettgttct
                                                                        300
gtgcacaggt ttatgattat aactgtgtca aaatgtatat tcaaaatagc tgttacatta
                                                                        360
cctttgtgga attatggtta aatactttca ctttaatttt ttcaaatgtt ccctataata
                                                                        420
atgttetgat aacagtgtat tatgtgtgte tecattggtg tgcataatac atacccagag
                                                                        480
gaaaaattag aaaataaagt aaattatttt aaaaaaattac ctatattccc aacacctaac
                                                                        540
aactactgct aacatcttga tctgtttcct ctatcttgtt tcagtgcaca cgcttgtgat
                                                                        600
aacagtgtta aatatgtgtg cataaagtct taaatgaaaa gatgtggaaa ataactaaaa
                                                                        660
tagtgttgtc attgtgggaa tttggttaaa tattttgtct caaattectt aaataatctt
                                                                        720
tggtgttttg gtaataaatt ttaatgatgt attttccatt acaaatataa tacatactca
                                                                        780
tacaaaactt tggaaaatta gtaaagaaaa ttcacacata ttcccacacc caacaccaat
                                                                        840
ttaactqqtn accatctqga ctgngcncta agctgggatt antttaggng tagtggataa
                                                                        900
gtatgcctaa aggccaaaaa tgggaagaag gatgaaaanc cngaaaatan ttnccctggt
                                                                        960
gtnnggggaa taaggggaat ttgggttcgg ttcctttgaa agggcatnnn tttcaagggg
                                                                       1020
tttg
                                                                       1024
      <210> 102
      <211> 1020
```

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1020)
      <223> n = A,T,C or G
      <400> 102
ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                            60
getggaatte gecetttega geggeegeee gggeaggtae tetttetete eceteetetg
                                                                           120
aatttaatto tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatattg
                                                                           180
tgttgcaaaa aaaaaagtgt ctttgtttaa aattacttgg tttgtgaatc catcttgctt
                                                                           240
                                                                           300
tttccccatt ggaactagtc attaacccat ctctgaactg gtagaaaaac atctgaagag
                                                                           360
ctagtctatc agcatctgac aggtgaattg gatggttctc agaaccattt cacccagaca
                                                                           420
gcctgtttct atcctgttta ataaattagt ttgggttctc tacatgcata acaaaccctg
ctccaatctg tcacataaaa gtctgtgact tgaagtttag tcagcacccc caccaaactt
                                                                           480
tatttttcta tgtgtttttt gcaacatatg agtgttttga aaataaagta cctcggccgc
                                                                           540
gaccacgeta agggegaatt etgeagatat ceateacact ggeggeeget egageatgea
                                                                           600
totagagggo coaattogoo otatagtgag togtattaca attoactgoo ogtogtttta
                                                                           660
caacgtcgtg actgggaaaa ccctgcgtta cccaacttaa tcgccttgca gcacatcccc
                                                                           720
ctttcgccag ctggcgtaat aacgaaaage cccggaccga tcgccctttc caacaggtgc
                                                                           780
                                                                           840
gcaacctgaa tggcgaaatg gacccccct ggaaccggcg cantaaaccc ccgncgggnn
nntngggtac ccccacggg ganccgttca cttggccann gccctaangn cccgttcctt
                                                                           900
tnggtttett teetteettt ttgeeegttt gneegggttt teeeggnaag etttaaaaac
                                                                           960
gggggcctcc ccctttangg gtccnaataa nggcttttac gggnccttng aaccccaaan
                                                                          1020
      <210> 103
      <211> 1021
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1021)
      \langle 223 \rangle n = A,T,C or G
      <400> 103
ggagnnnttn ngnngggece tetagatgea tgetegageg geegeeagtg tgatggatat
                                                                            60
                                                                           120
ctqcaqaatt cqcccttagc gtggtcgcgg ccgaggtact ttattttcaa aacactcata
tgttgcaaaa aacacataga aaaataaagt ttggtggggg tgctgactaa acttcaagtc
                                                                           180
acagactttt atgtgacaga ttggagcagg gtttgttatg catgtagaga acccaaacta atttattaaa caggatagaa acaggctgtc tgggtgaaat ggttctgaga accatccaat
                                                                           240
                                                                           300
teacetgtea gatgetgata gactagetet teagatgttt ttetaceagt teagagatgg
                                                                           360
gttaatgact agttccaatg gggaaaaagd aagatggatt cacaaaccaa gtaattttaa
                                                                           420
acaaagacac tittittit gcaacacaat atacatcaca gtgaaatgtg taatcettgc aaattgcaag ttgaaagaat taaattcaga ggaggggaga gaaagagtac ctgcccgggc
                                                                           480
                                                                            540
                                                                           600
ggccgctcga aagggcgaat tccagcacac tggcggccgt tactagtgga tccgagctcg
                                                                           660
gtaccaaget tggcgtaate atggtcatag etgntteetg tgtgaaattg gtateegete
acaattccac acaacatacg agcccggaag cataaagtgt aaagccctgg ggtgcctaat
                                                                           720
gagtgageta acteacatta aatgegttge geteactgge egetttneag teegggaaac
                                                                           780
ctgtcgtgcc agctgcatta atgaatccgg ncaacgcccc ggggaaaaaag cggttgcgta
                                                                           840
                                                                            900
ttgggcgctc ttncgctttc ttggttactg gctccttgng cctcggccgt tccggnttcg
gnnaaccggt atcagettae ttcaaangeg gnaaatccgg tttnecenga aatccggggg
                                                                           960
                                                                          1020
ttaacnccaq qaaaanaacc tttgaaccna aagggccccn aaaagggccc ggaaccctaa
                                                                          1021
      <210> 104
      <211> 1017
      <212> DNA
```

<213> Homo Sapien

<220>

```
<221> misc_feature
      <222> (1) ... (1017)
      <223> n = A, T, C or G
ggagnnntta atcnacgeen gettggtace gageteggat ceetagtaac ggeegecagt
                                                                        60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac tcagctgtct taataggatg
                                                                       120
aageettaag eagtggaaat tteagttatt tteeacagta tteeattttg gaggatttgg
                                                                       180
ggtgtttact ttttaaattc ttgaacaact taacctccat gaggetttgt gaagtcaget
                                                                       240
gtgaccaccc tcctcttact gtgttctcag tattcattca cttccaggga agaatgacag
                                                                       300
ccacagggag atggtggtgg gcaagaatga gagtcccagg atccagattt agcctcagat
                                                                       360
cttccccatt caggaagggt tttccattta acaagagcac tagtatgaaa acattaggga
                                                                       420
caaatctccc atgtctttga aattcggatt ctcctcttga gatccccttc ctcacctgcc
                                                                       480
aatcaacttt ataaggccac aagtggtcac tggttttcct tccacaggtt tgaggttctc
                                                                       540
agettteett aagegaeeca geageteege tgtttteaga gtgaatatgt taagetttga
                                                                       600
                                                                       660
tgagattcta ttttcagtaa gttagtgctt ctgggacact tggagaaagc tgtgagagtc
attggctacg caaagaacaa cgaaagctga tootaaaagt gatccaatct aagaaaatgg
                                                                       720
taaaacgage tetggeeaca geacagaatt ttatgtgang aacteagatt tttgaagaet
                                                                       780
taacaattgc agaaaaaggn tgcagcctgn acacccatag cccaactttt ntgagccana
                                                                       840
ctttgggttt tgggngggga cntggcacca tgtttgnacc tggccggccg gnccgttcna
                                                                       900
aagggccaaa ttntggcnga aatneettac actgggggge cgtttgagca tgeetntaaa
                                                                       960
ngggcccaan tngnccctta aaggggggen nnttccaatt nnctgggccc ggttttn
                                                                      1017
      <210> 105
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 105
                                                                        60
ggagnnnntt nnntnnngan tgggeeetet agatgeatge tegageggee geeagtgtga
tggatatetg cagaattege cetttegage ggeegeeegg caggtacaaa catgtgeeac
                                                                       120
gtcaccacac aaaaccaaag tetgetcaga gaggtggget atggtgtgca ggetgcaacc
                                                                       180
tttctctgca attgttaagt cttcaaaaat ctgagttcct cacataaaat tctgtgctgt
                                                                       240
ggccagaget egitttacea tittettaga tiggateact titaggatea gettegitgt
                                                                       300
                                                                       360
tetttgcgta gacaatgact etcacagett tetecaagtg teccagaage actaacttae
                                                                       420
tgaaaataga atctcatcaa agcttaacat attcactctg aaaacagcgg agctgctggg
togottaagg aaagotgaga acctcaaaco tgtggaagga aaaccagtga ccacttgtgg
                                                                       480
                                                                       540
ccttataaag ttgattggca ggtgaggaag gggatctcaa gaggagaatc cgaatttcaa
agacatggga gatttgtccc taatgttttc atactagtgc tettgttaaa tggaaaaccc
                                                                       600
ttcctgaatg gggaagatet gaggetaaat etggateetg ggaeteteat tettgeecac
                                                                       660
caccatetee etgtggetgt cattetteee etgaagtgaa tgaataetga gaacacagta
                                                                       720
                                                                       780
aggaaggagg gtggtcacaa gctgacttca caaagcccta atgganggtt aagttggtca
agaatttnaa aagtaacccc cccaaatcct ccaaaaatgg gaatactggt ggaaaataac
                                                                       840
ctggaaattn ccctggttta aggcttcatt ctattaagac cgcttgagta cccttggccg
                                                                       900
ngaaccccct taagggcgaa ntncaacaca ctgggngggc cggtacctaa nggatcccaa
                                                                       960
                                                                      1020
ctnggnaccc aancettggg gaaancatng ggccataact gggttcccgg ggggaaatgg
                                                                      1024
taat
      <210> 106
      <211> 1007
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (1007)
```

<400> 108

```
<223> n = A, T, C or G
```

```
<400> 106
ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                        60
                                                                       120
qctqqaattc qcccttagcg tggtcgcggc cgaggtacac agaatagctg agcagttcac
ttcagggatc aggtcatctc tgctcctcct agtttcacca tgttctggca ataaaaaaca
                                                                       180
catattatat cctggttttc tctatccttg cattactaag gtgactgtct ctctttatac
                                                                       240
atccttgtat ggttctccca gtattagcaa gattgtatat ctgtaaagaa tgtccagttt
                                                                       300
                                                                       360
tgtaaatatt tccctgcctt tttttttctt tttttacatc tgattttaat gcttcgttaa
cttcaaaagg aactggtaga gttcagaagg tgagctgttg titttctaaa cctcticcca
                                                                       420
                                                                       480
qqaaqqqqac attqacactt gaatttttgt cacctttttc ctcattagaa ggaaagtaga
aagcettact gtaggatttt taaaaaaaaa teeateteac eccatattgg tettaaataa
                                                                       540
                                                                       600
gtatagacta attaacctaa gctaccttta acaacgtaga atttaanatg ggttcatata
tgtgagaaaa acctgaatat aggacagggg tcctactttt ttccccacct ctgtcgccca
                                                                       660
                                                                       720
ggctagagta ntaantggtg gatcttggcc cactgcaacc tctgcttcta gggtcaagtg
attetectge teageetnee aagtaneeeg ggaattggaa gagtatgeea ceaegeecag
                                                                       780
ctactttttq qaattttaqt nnaaaacagg ttcatcatgn tggncccnga agggcnctta
                                                                       840
antectgnee ttnagngate ecceennana ngaaacentg gnenneceaa nnnnenggnn
                                                                       900
thtagchnnn concegngec cannotactt thhnaannnn nhnnnnnnnn nhnnnnnnnn
                                                                       960
nnnnnnnaa nnngnncnnn neengnnngn eennnnnngg gnaante
                                                                      1007
      <210> 107
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 107
qnaqnnnnn nnqattqqqc cctctaqatq catqctcgag cggccgccag tgtgatggat
                                                                        60
atotgoagaa ttogoodtta goggoogood gggoaggtac ttttttttt ttttttttt
                                                                       120
tttttttt aattaattag aaagtagget gggeaeggng geteatgeet ataateecag
                                                                       180
cacttgggga ggccgaggat ctcctctctg gnggatcact tgagggcagg agttaagaga
                                                                       240
ccatcctggc caacatgatg aaaccctgtc tctactaaaa atacaaaaag tagctgggcg
                                                                       300
                                                                       360
tggtggcata ctcttacaat cccggctact tgggaggctg aggcaggana atcacttgaa
cctaggaagc agaggttgca gtgggccaag atcacaccac tatactctag cctgggcgac
                                                                       420
agaggtgggg aaaaaagtag gacccctgtc ctatattcag gtttttctca catatatgaa
                                                                       480
                                                                       540
cccatctaaa ttctacgttg ttaaaggtag cttaggttaa ttagtctata cttatttaag
accaatatgg ggtganatgg attititit aaaaatccta cagtaaggct tictactitc
                                                                       600
                                                                       660
cttctaatga ggaaaaaggt gacaaaaatt caagtgtcaa tgccccttcc ttggggaaga
ggtttagaaa aacaacagct caccttntga acttttacca gttccttttt gagttaaccg
                                                                       720
aagcnttaaa aatcagatgt aaaaaangaa aaaaaaaggc cgggaaattt ttaccaaact
                                                                       780
                                                                       840
nggacattet ttacagatat acaatettge taaaacetgg gaaaaceett ecengggtgt
ttaaagggga aacagtcccc cttataatgc ccggggttna gaaaancccg gattttnnaa
                                                                       900
                                                                       960
aaaggggttt tattgcccaa aactggggga accttngggg ggncccaaaa nnaacctgan
ccctgaagg naccggtnn annnntttt tgggaccttg gccgggaacc ccctttnggg
                                                                      1020
                                                                      1024
ggna
      <210> 108
      <211> 470
      <212> DNA
      <213 > Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(470)
      <223> n = A,T,C or G
```

```
60
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtactattt ttttttttt
                                                                        120
ttttcgtgtn tttgacattc cttgaatctg ttttttattc cccttccaca gaacaggcct
                                                                        180
                                                                        240
gggactttcc aacaccctgc taaggaagtt ctgtgtccaa gtcccaccca ggctgggttg
                                                                        300
tecceaectn etneagecea cacageceag geageateeg ggeeagtgee etgeatgaca
nagggtettt gttgtgtaat gnttgtteee aagttgeatt ttetaaeega ateagtgtgt
                                                                        360
                                                                        420
tttcatgaaa ctgagtgtta ctgtggacca gtaagttnct ctgttgtctt cagtggtctt
                                                                        470
cctgtgtggc tcaagggttc tctgtgagag tctggatttt catttctggg
      <210> 109
      <211> 808
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(808)
      \langle 223 \rangle n = A,T,C or G
      <400> 109
gggcctctag angcatgctc gacggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                         60
agcgtggtcg cggccgaggt acaagtctgc ctaagagaca gaagtgagtn ttataatcta
                                                                        120
cttggccatt cctcccagca gagaagcagc aggtagatat ggcatgcact gtgcctgctg
                                                                        180
etgetgetet tgtggegaac acteagatgt ggaaceatag agggaeettg aggagetggg
                                                                        240
acatgattct ttagagaaga gaagagacgg ggagcacagc atgagaatgg ccagtcaacc
                                                                        300
                                                                        360
catttcaaat tottttatta aagtgcccc cgaggggcct tgcacaaaga tgatggggag
agcagaactg ctgctccttg acagaactct gatccttaca ctttgtttgg agtgggcttg
                                                                        420
                                                                        480
gggacagtca caagccatga aacatgaatc caaaatggtc cccagatgag ccatggtgaa
ccaacagatg caagcaactt cttaaactgc tctattaaac actgctttat atgtgtcccc
                                                                        540
                                                                        600
atgatacaga aaagtgggat ggggccagcc attccagaaa tgaaaatcca gactctcaca
gagaaccett gagecacaca ggaagaccac tgaagacaac agaggaacta ctggtccaca
                                                                        660
                                                                        720
gaaacactca gtttcatgaa aacacactga ttcgggtaga aaatgcaact tgggaacaaa
                                                                        780
cattacacaa caaagaccct ctgtcatgca gggcactggc ccggatgctg ctgggctgtg
tgggctggaa gangtgggga caacccac
                                                                        808
      <210> 110
      <211> 471
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(471)
      <223> n = A, T, C or G
      <400> 110
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggcccgc
                                                                         60
cagtgtgctg gaattcgccc tttcgagcgg ccgcccgggc aggtacagcg acgtgatgat
                                                                        120
gtagaggcgc ttcccatcca ggctgagctg gatcatctga gggcctncag ccacccgttt
                                                                        180
tocottgaco actaggggct otggotggga otttagttoo togtoctoca goacttgcac
                                                                        240
agggeeteec ttaacaatge tgeeteegag gaagagetgt cetgtgagge ggggtetetg
                                                                        300
tgggtcagag atgtcatact gcctcaggtc cccatgcage cagttgctga agtagaggaa
                                                                        360
geggtegtee agggagagea ggatgteggt gateaggeet ggeatttegg geageageea
                                                                        420
gcccttcact ttcttggggg gcacctggat caccttctcc actgaccatg t
                                                                        471
      <210> 111
      <211> 468
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
```

```
<222> (1) ... (468)
       \langle 223 \rangle n = A,T,C or G
       <400> 111
actatgacca tgattacgcc aagettggta ccgagetegg atccctagta acggeegeca
                                                                           60
gtgtgctgga attegecett agegtggteg eggeegaggt acttnnttne tttntttaca
                                                                          120
tetgatttta atgettegtt aactteaaaa ggaactggta gagtteanaa ggtgagetgt
                                                                          180
tgttttncta aacctnttcc caggaagggg acattgacac ttgaattttt gtcacctttt
                                                                          240
tcctcattag aaggaaagta naaagcctta ctgtaggatt tttaaaaaaa aatccatctc
                                                                          300
                                                                          360
accccatatt ggtcttaaat aagtatagac taattaacct aagctacctt taacaacgta
gaatttagat gggttcatat atgtgagaaa agcctgaata tangacaggg gtcctacttt
                                                                          420
tttccccacc tctgtcgccc aggctggagt atagtggtgt gatcttng
                                                                          468
      <210> 112
      <211> 813
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (813)
      <223> n = A,T,C or G
      <400> 112
attgggcctc tnnagcatgc tcgacggccg ccatgtgatg gatatctgca gaattcgccc
tttcgagcgg ccgcccgggc aggtaccatg ctgacttctt ggtatctttt anggcctaat
                                                                          120
tttcccttcc ttgagattac tgtagtgtgt tccagctaat ttctatttgg aaacgagttg
                                                                          180
gaacagetga aaactaggta ttattgaagg caaagcagee teaegteagt tttttateag
                                                                          240
ctcatttggg aagttttnnt ttttttntn ttaattaatt agaaagtagg ctgggcacgg
                                                                          300
nggeteatge etataateee ageaettggg gaggeegagg ateteetete tggtggatea
                                                                          360
cttgagggca ggagttaaga gaccatcctg gccaacatga tgaaaccctg tctctactaa aaatacaaaa agtagctggg cgtggtggca tactcttaca atcccagcta cttgggaggc
                                                                          420
                                                                          480
tgaggcagga gaatcacttg aacccaggaa gcagaggttg cagtgggcca agatcacacc
                                                                          540
actatactcc agectgggcg acagaggtgg ggaaaaaaagt nagacccctg tectatattc
                                                                          600
aggetttget cacatatatg aacceateta aattetaegt tgttaaaggt agettaggtt
                                                                          660
aattagncta tacttattta agaccaatat ggggtganat ggattttttt ttaaaaatnc
                                                                          720
tacagtaagg ctttctactt tccttctaat gaggaaaang gtgacaaaaa ttcaagtgtc
                                                                          780
natgcccctt cctggggaag aggtttaaaa aat
                                                                          813
      <210> 113
      <211> 506
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (506)
      <223> n = A,T,C or G
      <400> 113
nccaacttgg taccganctc ggatccctag taacggcana cattganctg atacgccaag
                                                                          60
cttggtaccg agctcggatc cactagtaac ggncgccagt gtgctggaat tcgcccttcq
                                                                          120
ageggeegee egggeaggta egeggggeet etggegetae catggegttt ggcaagagte
                                                                          180
accgggatcc ctacgcgacc tccgtgggcc acctcataga aaaggctaca tttgctggag
                                                                          240
ttcagactga agattggggc cagttcatgc acatctgtga cataattaac actacccagg
                                                                          300
atgggccaaa agatgcagtg aaagctttga agaaaangat ttncaaaaac tacaatcata
                                                                          360
aagaaatcca acttaccttg tcacttattg acatgtgtgt gcagaactgt ggtccaagtt
                                                                          420
tocagtotot gattgtgaag aaggaatttg ttaaagagaa tttagttaag ctactgaatc
                                                                          480
ccagatacaa cttgccatta gacatt
                                                                         506
      <210> 114
```

<211> 813

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (813)
      <223> n = A,T,C or G
                                                                        60
gggcccntnn agctgctcga gcggccgcca gtgtgatgga tatctgcaga attcgccctt
                                                                       120
agcgtggtcg cggccgaggt acaacttatt ctaaatattt tcattttctg tgttctaaat
                                                                       180
agaaatatta agttgcagta aaaagagaaa aaaaggctat ttagcattac aaagaatcat
atttaaaggc tgcccaatgt agagtctagt gacctgttca ggacacctga aatataatta
                                                                       240
                                                                       300
aatgacaatt atcaaggttt taacaattta taattctaaa ccagaggatt ataaagaagt
gcaaattgac ttttacattc aactttagtt aaatgaaggc actcagtatt cttcctgaat
                                                                       360
aatacattca qtttctcaca ttttatgctt tcatctattc agaattattt catagtaaaa
                                                                       420
taatctactc ttatcacage tgtgtgaega tttctaaatg taggaaggcc tgtgaaacat
                                                                       480
gacactgcag ttaaattggt tggcctaagg actaagtaat ttttcttctg ctgaagtttt
                                                                       540
aaqtqaqtat ttqttccaaa caaqttctgt tgaaatctca cgctgttgtc aggaatcagt
                                                                       600
gttatcctgg aactgttatt ctatttaatc ttcattatag cagaaatgtg ccaccatggc
                                                                       660
tttgacatgt tggtaggtat tgtcttccag gcttcaaagc tgcacagagt ctacgtttta
                                                                       720
gagagttggc acctttgatg tggtagtgag ctgatcatnc actttettet cagtcaccat
                                                                       780
cattttgagc tcctttgtgc tggtgagcat can
                                                                       813
      <210> 115
      <211> 471
      <212> DNA
      <213> Homo Sapien
      <400> 115
accagetatg acctgattac gecaagettg gtacegaget eggateeact agtaaeggee
                                                                        60
                                                                       120
gccagtgtgc tggaattcgc ccttagcgtg gtcgcggccg aggtaccatg attttgtgtt
caggaaacaa agaacatgaa atattacatt cttcagaatg tttttcttgt gccattaaat
                                                                       180
gaatcaagta aatgaggcaa tgaggcacaa ataaggaatt tagatttcag caatattttg
                                                                       240
atccactqta qctttcaqtt tctqaaactt tggaagggcc tacatacttt gtaagaattt
                                                                       300
                                                                       360
ttggcttata ttgttaataa tcaacagagc caagaaaaca tttcttagaa tgttcaaaga
caccacetta qcetteette cetgeageta taacattatt tttetaagag aaaaggcaga
                                                                       420
gagtottcac aaagccatac cagacttaaa attaccagag aacattttgg t
                                                                       471
      <210> 116
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (818)
      \langle 223 \rangle n = A,T,C or G
      <400> 116
ttncannggg cccctagage atgctcgacg gccgccatgt gatggatatc tgcagaattc
                                                                       120
geeetttega geggeegeee gggeaggtae ttttttttt tttttttt ttttttttgtg
tgtggtcttg aactcctggc ctcaaatgat cttcctgcct cagcctccca aagtcctggg
                                                                       180
attactggca tgagtcacca cacctggctc attcttttc ttaatatggc tctaaatggc
                                                                       240
tttttatttt ttttgctttg gcaatttatt tctaggaaat taaataattc tttcattata
                                                                       300
atcaagggaa tgaaagactt caggaggtcc atagtggagt tcaaaaccat atggagttca
                                                                       360
ctattctaca agattataca ggcaataata taagtattct aaggtgtttt aggtagattt
                                                                       420
atagatgtta gatttcaaaa tgggttaata agtgtttatg aatttccaag gtgtatcact
                                                                       480
aactteteaa gatgaaatea tatatagaaa etateaaaat ttteettgtt etgetgteaa
                                                                       540
gaaatgaata atatacactg atataactgt aactcacatc taaagggata gtgcttgaat
                                                                       600
aagctaattt acaatgagtt caaggtatta ttttaaaatt cttattgncc ttagacaata
                                                                       660
attatgccaa caaatgtgaa aaatattaaa totoottotg ntaatttttc cagttttatt
                                                                       720
```

780

```
acccaaaagt cacacaggta atgcaagtca tgaaataaat caaatgagcc cttcctggag
                                                                   818
agcctactit atttaccttg ggaaaatgga tgacatnt
     <210> 117
     <211> 467
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) ... (467)
     \langle 223 \rangle n = A,T,C or G
     <400> 117
accactatga cctgattacg ccaagettgg taccgagete ggatecaeta gtaacggccg
                                                                    60
                                                                    120
ccagtgtgct ggaattcgcc ctttcgagcg gccgcccggg caggtactac tggttttctc
cctggcttca cgtgtctctg tgttccccta tgctggggtg tcctcccagt gctttcaggc
                                                                   180
240
ctcagtcgcc cangctggag tgctaacctc tcctttcatg tggagatgga cagggatggc
                                                                   300
                                                                   360
aggageactg agtgetettg acaacaccat tgaagatgat getgaegate agetaccetg
tggagaaggc aggccaggct gggtgagagg ggagctcctt ggaagtcagg gggtctgtaa
                                                                    420
ggacagcaag gatetetttg teccaacete cageageett tatgggt
                                                                   467
      <210> 118
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      \langle 223 \rangle n = A,T,C or G
      <400> 118
gggcctctna agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgccctta
gcgtggtcgc ggccgaggta cctggggtct cagggttgct ctgggcctga tcatccactc
                                                                    120
                                                                    180
agatotgtaa ggaggatttg caggatocat ttagaaagat cotcoottac ttocacaagc
atggcctttg gctcttaaat acctgtgctg gggttttgta attatagaaa caacaggaac
                                                                    240
caaaactcat taatgttgag ctacaaacca gagggaagct tetttetcaa aacagggete
                                                                    300
aggectagaa aaatetagtt ttetgaaate getagecage aacageactg agatggecat
                                                                    360
                                                                    420
cccaqaaaca aggccaacac agaagcaccc ataaaggctg ctggaggttg ggacaaagag
                                                                    480
atcettqctq tccttacaga ccccttgact tccaaggage tcccctctca cccagcctgg
cctgccttct ccacagggta gctgatcgtc agcatcatct tcaatggtgt tgtcaagagc
                                                                    540
actcagtgct cctgccatcc ctgtccatct ccacatgaaa ggagaggtta gcactccagc
                                                                    600
660
                                                                    720
ggaaggagat gaageetgaa ageaetggga ggacacccca gcatagggga acacagagac
acgtgaagec agggagaaaa ccagtagtac etgeceggeg geegntegaa agggegaatt
                                                                    780
                                                                    815
ccagcacact ggcgggccgt tactagtgga tccct
      <210> 119
      <211> 811
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (811)
      <223> n = A,T,C or G
      <400> 119
gggcctctnn agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                     60
cgtggtcgcg gccgaggtac tctatttttt gcttgtatga ttgatgggtc tttcattatc
```

```
tgtgattgac attctatgag taggtgcttt tgctttgcct ataagtcgtt attatgaagg
                                                                        180
                                                                        240
aggaatggtg aataagaagg taatttagaa aagcctatat taaatatacc atgaacattg
                                                                        300
aatatagcaa gatettatte tetagttgtt atettagttg ataaattetg tatgtgttat
                                                                        360
gtgtttgtgt atacatatgt acttaatctg atcggtatct aaaagaagga aaggatggtc
                                                                        420
aqqaaacatt tatcataaat gtagccaagg atatcaatta gggtagacaa gaataggaca
                                                                        480
aaaataggcc agagctcctg aggaggtgat atgggtccct tgatttgcag aaaatgacag
cctatccaag tggcccagtg tatgcctccc agtagcagtg ggcatgtaaa ctgcagcgac
                                                                        540
cttattttta aaaccaaaaa cctagtatgt ggacaaagaa catgacaata tttggtacct
                                                                        600
gecegggegg cegetegaaa gggegaatte cagcacactg geggeegtta ctagtggate
                                                                        660
                                                                        720
cgagctcggt ccaagcttgg cgtaatcatg gtcatagctg gttcctgtgt gaaattggta
tecegeteae aattnecaea cacataegaa eeeggaagea ttaaagtgta aaageetggg
                                                                        780
gtgcctaatg aagtgagcta ctcacattaa a
                                                                        811
      <210> 120
      <211> 466
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(466)
      <223> n = A, T, C or G
      <400> 120
antigaccig attacgecaa getiggiace gageteggat ecaetagiaa eggeegecag
                                                                         60
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg tacccacgtt ttgctccaca
                                                                        120
                                                                        180
ctccttgacc acaggggctc ggacacaaac ccctgtcacc aggagagtca gtcagcacta
cttgggaggg ctaaagggaa atttggaaat aaaattccaa agtttggagt aaaaaaattc
                                                                        240
aagtgttgat tttatattct ttccctttct gacacagcct aaagcgtagg gggaacatgt
                                                                        300
gtttatctgt gggagataaa caagatggag tcccaaagac tttaacaaaa tattttttta
                                                                        360
aaaatccact agaatagaaa atacattatt tagatatact ttatgctgag agtgagtata
                                                                        420
tatgcttgtc ctatttaaac ttgtgagaaa aagtggtatc ccttng
                                                                        466
      <210> 121
      <211> 812
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (812)
      \langle 223 \rangle n \stackrel{.}{=} A,T,C or G
      <400> 121
ttgggcccnt nnagcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc
                                                                         60
cttagcgtgg tcgcgqccga ggtacaactc tccagggcac aatacgttta cagctgcctt
                                                                        120
                                                                        180
tccttcacat acttttctaa ttcagaacta ctcacaattc taagcaaatt cccattcacg
aagtetgtee ataatgegae ettetettt tttaacatat acatettaaa aaacaaatat
                                                                        240
ataaaaaatt cttattttgc tggaatgctt tcaatttttc acattttaca tgatcatcac
                                                                        300
atttatttct tatattgaaa ggcatggttt ctgttgacat gtcgtgcaaa gccaaaaaaa
                                                                        360
aaaaaaaaa aaagggctgg attgcttttc aattggtcta acacttttcc ttgtctaggc
                                                                        420
tttggatttt aaagttcatg acagccccac caccagtaga aaccccaagg cttgcatttc
                                                                        480
ctggtaatcg actggaaacg toccotgttg gocatgotaa gattoottoa acagggtoat
                                                                        540
cetgeattta tteteettet geeccacece cacaatgaaa caagatagee eccatattte
                                                                        600
taaatgtatc aagggatacc actttttctc acaagtttaa ataggacaag catatatact
                                                                        660
cacteteage ataaagtata tetaaataat gtatttteta ttetagngga tttttaaaaa
                                                                        720
aatattttgg taaagtottt ggggactoca tottggttat ottocacaga taaaccatgt
                                                                        780
tececetacg etttaggetg tggtcagaaa gg
                                                                        812
      <210> 122
      <211> 467
      <212> DNA
```

```
<213> Homo Sapien
      <400> 122
actatgacca tgattacgcc aagettggta ccgagctcgg atccactagt aacggccgcc
                                                                   120
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg taccatgctg acttcttggt
atcitttaag godtaattit cocttoottg agattactgt agtgtgttoc agctaattto
                                                                    180
                                                                    240
tatttggaaa cgagttggaa cagctgaaaa ctaggtatta ttgaaggcaa agcagcctca
300
                                                                   360
ttagaaagta ggctgggcac ggtggctcat gcctataatc ccagcacttg gggaggccga
ggateteete tetggtggat eaettgaggg eaggagttaa gagaecatee tggeeaacat
                                                                    420
                                                                    467
gatgaaaccc tgtctctact aaaaatacaa aaagtagctg ggcgtgg
      <210> 123
      <211> 864
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (864)
      <223> n = A, T, C or G
      <400> 123
gggeetetng ageatgeteg ageggeegee atgtgatgga tatetgeaga attegeeett
                                                                    60
togagoggco gooogggcag gtactttttt ttttttttt tctttttta catotgattt
                                                                    120
taatgottog ttaacttoaa aaggaactgg tagagttoag aaggtgagot gttgttttto
                                                                    180
taaacctctt cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt
                                                                    240
agaaggaaag tagaaagcct tactgtagga tttttaaaaa aaaaatccat ctcaccccat
                                                                   300
attggtetta aataagtata gaetaattaa eetaagetae etttaacaae gtagaattta
                                                                    360
gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac ttttttcccc
                                                                    420
acctctgtcg cccaggctag agtatagtgg tgtgatcttg gcccactgca acctctgctt
                                                                    480
cctaggitca agigattete eigecteage eteccaagia geigggatig taagagiatg
                                                                    540
ccaccacqcc caqctacttt ttgnattttt agtaqagaca qqgtttcatc atgttggcca
                                                                    600
                                                                    660
ggatggnete ttaacteetg ceetcaagtg gatecaceag agaaggagat ceettggnet
tocccaagtg cotggggatt attaggoatt gaagcccacc cgtggcccca agccctacnt
                                                                    720
780
aaattgganc ctgggtttaa aaaaacctgg accettnaan gggentggnt tttggeeett
                                                                    840
                                                                    864
tnaaataaat tncccctaag gnnt
      <210> 124
      <211> 467
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(467)
     \langle 223 \rangle n = A,T,C or G
     <400> 124
antatgacct gattacgcca agettggtac cgagetegga tecactagta aeggeegeca
                                                                    60
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacatgcac acacacacac
                                                                    120
                                                                   180
acacacaca acgtgtctac tgggctcctt ttggattttt tagttcaatc agaaatcacc
aaacagatca ataaagaggc aatgttaaat gaccgggaaa ttggtaatgt gacatcacaa
                                                                   240
cactgccttt aaggtgccat atctaaatcc aggtagcact gctgctagca gaatctgttg
                                                                   300
ttttaggaga caagggtggg ctgggtatgc tggctcgtgc ctataattcc agcactttga
                                                                   360
gagggcaagg caggagaacc acattaggct aggagtttan gaccagcctg ggcaacatag
                                                                   420
tgagatccca tctctacaaa aataaaaaaa ttagctttcc agctgct
```

<210> 125 <211> 833

<212> DNA

```
<213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (833)
      \langle 223 \rangle n = A,T,C or G
      <400> 125
gnnnnnnnn ngnnttnnnn ntttaataga tgagcgtacg gngcctgtaa agcatgctcg
                                                                         60
ageggeegee atgtgatgga tatetgeaga attegeeett agegtggteg eggeegaggt
                                                                        120
acctgatate gtttaacttt cetetttate tttettagag ataetteaca tgtgggacag
                                                                        180
attatatttt ggaaagatgt ccacaacaat attgcccatc ccacattgct catcttacaa
                                                                        240
tgtgatctca agactcctcc cactgagtgg gtgagaaggg acttatacca ctttcatttg
                                                                        300
aatctaggca gatctgtgtg acagcettga ccaatagagt atggttaaag tgatgeeece
                                                                        360
aggeatggtg geceatacet ggaateetgg ttttteeggg aggeecaggt gggggtagag
                                                                        420
gtgaggggga tgattgtttg aacacacgag tttgagacta ccctgagcaa cacaatgaga
                                                                        480
ccctattitt tittaatgat tictgaagca gaatcacaaa tagccgigcg tittittett
                                                                        540
gegettttag gatacttact tttaaaaccc agtcaccata ttgttaggaa geccaaacag
                                                                        600
cacacataga gagacatacg gagaagccaa ccatagaggt tcctgttqac aqctcantcq
                                                                        660
aggtottaac caacagtoat acttagetgo cagocatatg agtgaagggo ttncagatga
                                                                        720
ttctaacgcc cagcagttgg gtccccccag cctgtaagcc ttcccagctg aggcctnaca
                                                                        780
atgatggagc anagaaaagt gtccctgtcc aaattctgac ccatgataaa atg
                                                                        833
      <210> 126
      <211> 788
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(788)
      <223> n = A, T, C or G
      <400> 126
nnnnnnnnnn nnacanttga ctgataccca acttggtacc gactcggatc cactagtaac
                                                                         60
ggccgccagt gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac gcgggggatc
                                                                        120
agagagaagc gaggttctcg ttctgaggga caggctcgag atcggctgaa gagagcgggc
                                                                        180
ccaggetetg tgaggaggea agggaggtga gaacettget etcagagggt gactcaagte
                                                                        240
aacacaggga acccctcttt tctacagaca cagtgggtcg caggatctga caagagtcca
                                                                        300
ggttctcagg ggacagggag agcaagaggt caagagctgt gggacaccac agagcagcac
                                                                        360
tgaaggagaa gacctgcctg tgggtcccca tcgcccaagt cctgcccaca ctcccacctg
                                                                        420
ctaccotgat cagagicate atgeotogag ctocaaageg teagegetge atgeotgaag
                                                                        480
aagatettea ateecaaagt gagacaeagg geetegaggg tgeacagget eccetggetg
                                                                        540
tggaggagga tgcttcatca tccactttca ccagctcctc ttttccatcc tcttttcctt
                                                                        600
ctccttcntt ttctnctnct nctnctgcat ctntaatacc aagcacccca naggaggttt
                                                                        660
ctgctgatga tgagacaccc aaatnettee anagtgetna anatageetg ntnetteece
                                                                        720
cttnggnent gettteeett nenttanatt naatnetgat taaggggtte cancanneca
                                                                        780
aaaggaat
                                                                        788
      <210> 127
      <211> 766
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (766)
      \langle 223 \rangle n = A,T,C or G
      <400> 127
gggcetetna ageatgeteg aeggeegeea tgtgatggat atetgeagaa tteqeeettt
egageggeeg eeegggeagg tacteeaggt agtitteetg caeceaatet tigggtgagea
                                                                        120
```

```
getteetggg etececataa atgaggtget ecateceate atacageece atcatattea
                                                                       180
                                                                       240
gtgcttccca gatgacctcc tcaggggtgc agtagccctc tatgaagatt atgcttagga
                                                                       300
taagtatgag aatgccagtc ttgggcatgc tctggacatc actcagcatc ccatcatagg
                                                                       360
tgaggcccag ggaggtgaca aggacaaagg agtggccagt gggatccact tcctttacat
caatgccaaa gaccagcagc atgcactcgg aggcttcact aaacaacaaa gggaagtggt
                                                                       420
                                                                       480
cttcataatt ttttatgaca ctctccagta tttctgcctt tgtgatcggc tccttcattt
gatacttgaa gagcagaaac tgcaccaaat cagtcacctt ttcatctatc tcacttctgg
                                                                       540
                                                                       600
gtaaagactc actgtctggc aggacctgta gggtgcttgg actctcctcc ttttggctgc
tggagcctc atcagattga tctaatggaa gggaagcaac gaccganggg gaggagcagg
                                                                       660
                                                                       720
ctatctgagc actctgggga ggatttggtg tctcatcatc agcagaaacc tnctctgggg
tgcttgggta ttagangatg gcaggaagaa gaagangaag aggaag
                                                                       766
      <210> 128
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(779)
      <223> n = A,T,C or G
      <400> 128
gnnnnntnnn nacactantt tnngaccegn canetggtae egaeteggae caetagtaae
                                                                        60
                                                                       120
ggccgccagt gtgctggaat tcgccctttc gagcggcccg cccgggcagg tactcctcat
                                                                       180
cotgogtttg gtotocaggt gtogocttto tgccgtgtto ctaatatttt gattoctgto
                                                                       240
ttgaaaaaag cacctgctgc acagtaagcc cagggatgtg gcagctgcag cgggcttggc
                                                                       300
tttgtgagga accgggtgtg tccacgttgg gggaacatca tacttgatac acacgttttt
atttgcacaa agaaaatgct atttttggag ccagaatttt catgtctgat ttatggtgat
                                                                       360
tttcttaaga accagaactg ctggcagaaa gggggcaccc acacgcttag atagccgatg
                                                                       420
tettattaga gggcagtttg tggttcctga tttggaaatt aatattctcc aaacattcca
                                                                       480
gtccaatgaa agttttatcc gctttcccat gtaaaaattc ttcccatgag agtgacttga
                                                                       540
                                                                       600
tecteacaat ecceptigaag tegtigtiga gieetacagi attaggitica geatigeegi
ctncaagtgc totttgtagg gaaacagttt ctggtcatga caagcttcca cttccatctg
                                                                       660
                                                                       720
atcctggcct ggcctggaaa cagagcacat gtgtttgagg atggcngtgt ttggggacag
gacatgancg tattgtgtgg ggctgctagg acangcgtgg tgtggtgggg gantgtccn
                                                                       779
      <210> 129
      <211> 774
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (774)
      \langle 223 \rangle n = A,T,C or G
      <400> 129
                                                                        60
ttnnnantgg gcccntngag catgetegac ggccgccatg tgatggatat ctgcagaatt
cgcccttagc gtggtcgcgg ccgaggtacc tgggtgggac tgggaaactg tgaaacaagt
                                                                       120
agactgactt ggacactccc ccaccacacc acgcctgtcc tagcagcccc acacaatacg
                                                                       180
                                                                       240
ctcatgtcct gtccccaaac accgccatcc tcaaacacat gtgctctgtt tccaggccag
gccaggatca gatgggaagt ggaagettgt catgaccaga aactgtttcc ctacaaagag
                                                                       300
cacttggaga cggcaatgct gaacctaata ctgtaggact cacacacgac ttcaacggga
                                                                       360
ttgtgaggat caagtcactc tcatgggaag aatttttaca tgggaaagcg gataaaactt
                                                                        420
                                                                       480
tcattggact ggaatgtttg gagaatatta atttccaaat caggaaccac aaactgccct
                                                                       540
ctaataagac atcggctatc taagcgtgtg ggtgccccct ttctgccagc agttctggtt
cttaagaaaa tcaccataaa tcagacatga aaattctggc tccaaaaaata gcattttctt
                                                                       600
tgtgcaaata aaaacgtgtg tatcaagtat gatgttcccc caacgtggac acaccccggt
                                                                       660
tectnacaaa gecaageeeg etgeagetge cacatteetg ggettaetgt geacangtge
                                                                       720
tttttttaag acaggatcaa atnttaggac congnanaan gcaacacctg gaga
                                                                       774
```

```
<210> 130
       <211> 803
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (803)
      <223> n = A, T, C or G
ggnnnnttnn anacgnatch gacctganta cgccaacttg gtaccgagct cggatccact
                                                                             60
                                                                            120
agtaacggcc cgccagtgtg ctggaattcg cccttagcgt ggtcgcggcc cgaggtacct
tqqaaqttat qtcattaata taggctggtt cgtcaaataa agcaaaacct tgcaatatca
                                                                            180
                                                                            240
gctagattta cactceggga egttgcccaa aggtaggaag aaagcagagg gaaatattte
agtcatcatt tccaaagtca ttatcaaaat ctgtgaggaa gtttaatctt ccaaagagtc
                                                                            300
                                                                            360
aatgtcagac atcaggcctc tgttgcctgc ttctctcgag gcactagatt aggagtcttc
aataagagac ttaacatgag gtatatggaa gatgaggcac cgagataagt tcatcattag gtgtgagcac tgctcaccct tgctggcaag ttctccttaa gggcctgaag cacaggtgtc
                                                                            420
                                                                            480
                                                                            540
caaaqaaaag cgttaagtcc atcttaatag aatctatgtg gtatatgatg tggtcagccc
                                                                            600
coggtotgtg atcagcaaga acctacagca cagattatgc cotgoccact toaatgaata
cotactotec incattotec atcactttt tigotateaa gactooggac citgoccatg
                                                                            660
gagaagttta gagaggaact cttgtggaga gctggtttat tttctgccct gtgcgacgag
                                                                            720
tttcagcttg gccaaagaaa ggagtcaagg ttattaaaaa gcatcacaat ggtagatctt
                                                                            780
ccaggcttgg ntttttttgt ttt
                                                                            803
      <210> 131
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(818)
      <223> n = A,T,C or G
      <400> 131
antgggcctc tnnagcatgc tcgacggccg ccatgtgatg gatatctgca gaattcgccc
                                                                             60
tingcocget ticcagnegg gaaacetgic nigccagning cattaatgaa tengecaacg
                                                                            120
cgcggngaga ggcggnttgc gtattgggcg ctcttccgct tcctcgctca ctgactcgct
                                                                            180
gegeteggee gttengetge ggegageggt ateageteae teaaaggegg taataengtt
                                                                            240
atccacagat caggggatan cggcaggaaa gaacatgtga ncaaaaggcc agcaaaaggc
                                                                            300
caggaaccga aaaaaqqccg ctttgttggc gtntnaccat aggctcnncc cccttgacna
                                                                            360
getteacaaa aatetaeget cagnteecag gtgenaaate eeganaggae tntaangatt
                                                                            420
cnnggnnttt ccccctqaan nctncctant gcgctctcct gtnccaacct tgccgtttac
                                                                            480
eggatacetg neegeetnna theettegng aagentgget titnaatngg etcactittt
                                                                            540
gggnatetaa aaneggnnta ggengnnegt tnnaaantng nntttttgen caaaceeect gtttaaactn acceatgnge attateeegg aaacttttgg tnttngaate caacenggna
                                                                            600
                                                                            660
aanacacnan ttaatnnqcc nttggcntga aacccacttg ggtnaaccat ggattttggc
                                                                            720
ncnaccnagg gtnnttttnn nggcnggtnc ntacccggag ttctttnaaa acngggtggg
                                                                            780
cnettanace tatenggnnt teceetttan aaaaaaat
                                                                            818
      <210> 132
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(777)
      \langle 223 \rangle n = A,T,C or G
```

```
<400> 132
acnntatgac ntgantaccc aacttggtac cgactcggac cactagtaac ggccgccagt
                                                                    60
                                                                    120
gtgctggaat tcgcccttcg gcccgcccgg gcaggtacct ggaaaataac ttctttcttt
                                                                    180
tcctctagat tttcgaagaa gcaaataaat caagaataga aacctatata taggaggttg
                                                                    240
ggcctcctgc aaagaatgaa gcactttttg ttaaatacag gagaggctac ttggctgcac
taatatgtgc tttttggaat cttatagagt gtcaccaagt tgaactttgg aatggcttga
                                                                    300
                                                                    360
atcatccctg gagcatctgt geegggeagt caggagtgag tgeacegeet ceeacecage
cccattgggc ctcacaccct cttcattcct ttccccatga ggcaggcaaa cacggtcatg
                                                                    420
accattttgg ggttcacttc aaccaggtct tetggcaggg catacactct tgetccaatt
                                                                    480
tttcgggcca tagagatggc atattttgca ttgttgagtt tctcatcatc attcagattt
                                                                    540
                                                                    600
tetgtettea gaaggteata gttaatggaa eetggttgga tggcategat gangteeaga
acaggeagae ttgtaceteg geogegaeca egetaaggge gaattetgea gatatneate
                                                                    660
acactggcgg gccgntcgag catgcatcta ganggcccaa ttcgccctat agtgagtcgt
                                                                    720
                                                                    777
attacaattc actgggccgt cgttttacaa cgtcgtgact gggaaaaccc tgcgttn
     <210> 133
     <211> 775
      <212> DNA
      <213> Homo Sapien
     <220>
      <221> misc_feature
      <222> (1) . . . (775)
     <223> n = A, T, C or G
      <400> 133
ntgggcctct nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                     60
                                                                    120
tagogtggtc goggccgagg tacaagtctg cotgttctgg acctcatcga tgccatccaa
ccaggttcca ttaactatga ccttctgaag acagaaaatc tgaatgatga tgagaaactc
                                                                    180
                                                                    240
aacaatgcaa aatatgccat ctctatggcc cgaaaaattg gagcaagagt gtatgccctg
ccagaagacc tggttgaagt gaaccccaaa atggtcatga ccgtgtttgc ctgcctcatg
                                                                    300
                                                                    360
gggaaaggaa tgaagagggt gtgaggccca atggggctgg gtggaggcg gtgcactcac
                                                                    420
tectgactge eeggeacaga tgetecaggg atgatteaag ceattecaaa gtteaacttg
gtgacactct ataagattcc aaaaagcaca tattagtgca gccaagtagc ctctcctgta
                                                                    480
tttaacaaaa agtgcttcat tctttgcagg aggcccaacc tnctatatat aggtttctat
                                                                    540
tottgattta tttgottott ogaaaatota gaggaaaaga aagaagttat tttocaggta
                                                                    600
cctgcccggg cggccgaang gcgaattcca gcacactggc ggccgttact agtggatccg
                                                                    660
ageteggtae caagettgge gtaateatgg teatagetgt tteetgtgtg aaattgntat
                                                                    720
ccggtcacaa ttcccacaca tacgaacccg gaagcataaa gtgtaaagcc tgggg
                                                                    775
      <210> 134
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (772)
      <223> n = A, T, C or G
      <400> 134
acnnttgacc tgatacccag ctggtccgac tcggacccta gtaacggccg ccatgtgctg
                                                                     60
gaattcgccc ttgagcggcc gccggggcag gtctataagt ctttaaattg ggtcgtgttt
                                                                    120
ttagcaggta agactaattt atctcttctc cagtgaattg atgctggtgg gattcgattt
                                                                    180
240
300
tcagaataac attaattttg agagattgag gtaaagaacc ttaactaatg ctaaggagtt
                                                                    360
tattttgatt aacataggtt attctgacca ccacctcttc cttccttaat ctccttagaa
                                                                    420
totgacagto toaaagotgt cacadaaatt agactaattt tgacactttg aaatgaaaac
                                                                    480
ttcaaggaag aagtagccac ggacagttat gtttataatc agtaggtggc actctttcct
                                                                    540
caggtagece eccattttca catgatgtgt ttgaaggtta aatgeeccaa aagtgetgag
                                                                    600
tcagctataa aactaagtcc ctgaattcca tggccctttt aaatatgtaa tcattcaaga
                                                                    660
```

```
ttgaaaaaaa aaattaagca ttttttgntt gnttgcttgg ttggttttga gacngagttt
                                                                       720
cactettgnt ggccaggetg gagtgcaatg gegecatetn acteaetgna ag
      <210> 135
      <211> 784
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (784)
      <223> n = A, T, C or G
      <400> 135
ntgggcctct nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                       120
tagcgtggtc gcggcccgag gtacttcttt tgaataattc agtattttaa aaatgcaagc
caggcacagt ggctcacgcc tgtaatccag cactttggaa ggccgaggtg gggggatcac
                                                                       180
                                                                       240
gaggtcagga gttcaagacc agcctggcca acatggtgaa acctcatctc tactaaaaat
acaaaaacta gctgggcatg gtggcgggca cctgtaaccc cagctacttg gagggctgaa
                                                                       300
ggagaattgc ttgaatccgg gaggcagagg ttgcagtgag ctgagatggc gccattgcac
                                                                       360
tccagcctgg ccaacaagag tgaaactccg tctcaaaaac aaacaagcaa acaaacaaaa
                                                                       420
aatgettaat tttttttte aatettgaat gattacatat ttaaaaggge catggaatte
                                                                       480
agggacttag ttttatagct gactcagcac ttttggtggc atttaacctt caaacacatc
                                                                       540
atgtgaaaat ggggggctac ctgaggaaag agtgccacct actgattata aacataactg
                                                                       600
tccgtggcta cttcttcctt gaagttttca tttcaaagtg tcaaaattag tctaatttgt
                                                                       660
gtgacagctt tgagactgtc agattctaag gagattaaag gaanggaaga ggtggtggtc
                                                                       720
agaataacct atgttaatca aaaataaact teettageat taagttaang gtetttaect
                                                                       780
caan
                                                                       784
      <210> 136
      <211> 768
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(768)
      <223> n = A, T, C or G
      <400> 136
aenttgantg nacceaettg teegactegg atcectagta aeggegeagt gtgetggaat
                                                                        60
tegecettig ageggeegee gggeaggtae ttittittit ettittitae atetgattit
                                                                       120
                                                                       180
aatgcttcgt taacttcaaa agggaactgg gtagagttca gaaggtgagc tgttgttttt
ctaaacctct tcccaggaag gagacattga cacttgaatt tttgccacct ttttcctcat
                                                                       240
                                                                       300
tagaaggaaa gtagaaagcc ttactgtagg atttttaaaa aaaaatccat ctcaccccat
attggtctta aataagtata gactaattaa cctaagctac ctttaacaac gtagaattta
                                                                       360
gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac ttttttcccc
                                                                       420
acctetgeeg cecaggetag agtatagtgg tgtgatettg geccaetgea acctetgett
                                                                       480
                                                                       540
cctaggttca agtgattctc ctgcctcagc ctcccaagta gctgggattg taagagtatg
                                                                       600
ccaccacgee cagetacttt ttgtattttt agtagagaca gggtttcatc atgttggcca
ggatggtctc ttaactcctg ccctcaagtg atccaccaga gaggagatcc tcggccttcc
                                                                       660
caagtgctgg gattataggc atgagccacc gtacccagcc tactttctaa ttaattaaaa
                                                                       720
aaaaannnnn nnnnaaaaaa acttnccaaa tgactgataa aaaactgc
                                                                       768
      <210> 137
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (777)
```

120

180

240

300

360

```
\langle 223 \rangle n = A,T,C or G
      <400> 137
                                                                         60
ttgggcctct ngagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                        120
tagogtggtc gcggccgagg taccatgctg acttcttggt atcttttaag gcctaatttt
                                                                        180
cccttccttg agattactgt agtgtgttcc agctaatttc tatttggaaa cgagttggaa
cagctgaaaa ctaggtatta ttgaaggcaa agtagcctca cgtcagtttt ttatcagctc
                                                                        240
atttgggaag tttttttt tttttttt tttttttt ttttttaatt aattagaaag taggctgggt
                                                                        300
acggtggctc atgcctataa tcccaqcact tggggaggcc gaggatctcc tctctggtgg
                                                                        360
                                                                        420
atcacttgag ggcaggagtt aagagaccat cctggccaac atgatgaaac cctgtctcta
ctaaaaatac aaaaagtagc tgggcgtggt ggcatactct tacaatccca gctacttggg
                                                                        480
                                                                        540
aggotgaggo aggagaatca ottgaacota ggaagcagag gttgcagtgg gccaagatca
caccactata ctctagcctg ggcggcagag gtggggaaaa aagtaggacc cctgtcctat
                                                                        600
atteaggttt tteteacata tatgaaccca tetaaattet aegttgttaa aggtagetta
                                                                        660
ngttaattag totatactta tttaagacca atatggggtg agatggattt ttttttaaaa
                                                                        720
                                                                        777
atcctacant aaggetttet acttteette taatgaggaa aaaagtggea aaaattt
      <210> 138
      <211> 950
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (950)
      <223> n = A, T, C \text{ or } G
      <400> 138
nnnnnnnn nnnnnnnnn nttnnnnnn nnnnnaaanc cnnnnnttna nnngnnaaac
cccattggna aanttaaccn ncccccaaaa gccctttngg ggtttaaccc ccgaaagcct
                                                                        120
tccgggggna atccccaact ttaagttaaa acnggggccc cgggcccaag ttggttggcc
                                                                        180
tttgggggaa aatttccgcc ccctttccga agccgggccc ggccccgggg gccaagggta
                                                                        240
ccatgggaat ggttaccttt tggcaagaac tggtcaaacc ctggaaattt tggtattttt
                                                                        300
gctttggaca ttggccctaa attaattaag tttcaaggtg gtcaggcttt acccactttt
                                                                        360
tggtctggca acatgcagaa gagacagtgc cctttttagt gtatcatatc aggaatcatc
                                                                        420
tcacattggt ttgtgccatt actggtgcag tgactttcag ccacttgggt aaggtggagt
                                                                        480
tggccatatg tctccactgc aaaattgctg attttccttt tgtaattaat aagtgtgtgt
                                                                        540
gaagattett tgagatgagg tatatatete actetteate aaaetataag tittittaag
                                                                        600
taaaagaaaa tttattatga aactaaagga ataaaagaat gaccactcca taggcagaga
                                                                        660
aacgtcactt taaggttttg acgtcaattg atttttgtcc aaatcaataa ttactgcaat
                                                                        720
gattgaaaaa tgattattac taagtttgtt ttcattgtct caaggtctgc tgaactctgg
                                                                        780
atccaggetg tgtcaacagg gtagtgtggt gcctcctgta cctcggccgc gaccacgcta
                                                                        840
agggcgaatt ctgcagatat ccatcacact ggcggccgtt cgagcatgca tctagagggc
                                                                        900
ccaattcgcc tatagtgagt cgtattacaa ttcactggcc cgcgttttag
                                                                        950
      <210> 139
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(779)
      <223> n = A, T, C or G
      <400> 139
ttgggccent agagetgete gageggeege catgtgatgg atatetgeag aattegeeet
                                                                         60
```

tagogtggtc gcggccgagg tacaggaggc accacactac cctgttgaca cagcctggat

ccagagttca gcagaccttg agacaatgaa aacaaactta gtaataatca tttttcaatc

attgcagtaa ttattgattt ggacaaaaat caattgacgt caaaacctta aagtgacgtt

tototgocta tggagtggtc attottttat tootttagtt toataataaa ttttotttta

cttaaaaaaa cttatagttt gatgaagagt gagatatata cctcatctca aagaatcttc

```
acacacactt attaattaca aaaggaaaat cagcaatttt gcagtggaga catatggcca
                                                                       420
actocacett acccaagtgg etgaaagtca etgcaccagt aatggcacaa accaatgtga
                                                                       480
gatgattcct gatatgatac actaaaaagg gcactgtctc ttctgcatgt tgcagacaaa
                                                                       540
aagtgggtaa gctgacactg aaactaataa ttaggcaatg tcaagcaaat acaaattcag
                                                                       600
gttgacagtc tgcaaagtaa catccatgta cctgcccggg cngnccgctc gaagggcgaa
                                                                       660
                                                                       720
ttccagcaca ctggcggccg ttactagtgg atccgagctc ggtaccaagc ttggcgtaat
catgggcata gctggttcct gtgtgaaatt ggtatneget cacaattnee acaacatag
                                                                       779
      <210> 140
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (779)
      \langle 223 \rangle n = A,T,C or G
      <400> 140
gocontagag catgotogac ggoogocagt gtgatggata totgcagaat togcoottag
                                                                        60
cgtggtcgcg gccgaggtac caggtgggct gacgcacatc ccctaaacat tctggatctc
                                                                       120
ttactcatcg tgaaaggcag acgetetaag tetaaagtet agggtaggag tttccattet
                                                                       180
                                                                       240
ttggaaaacc aaagatggtt actettetta atgaaactga gaagaaggta tetacagaaa
acactgaatt taaacaaatt atgaccttgt ttgttgaagc catcaaggac ccaagatata
                                                                       300
tcaaagaaca acatctctgt attggcctac aggttcagag tgttttgagg tctgtttaag
                                                                       360
cactaatagg attttaggcc agcatccagt cagaagagat agttcacaga ctcagagttg
                                                                       420
                                                                       480
gaaacagatt aaaaaaaaaa agatgtcaac atagaaaatg atgatagagt ttagttaaaa
aaattcacac ataaaattac agttaaaaaa attcacacat aaaatagagt gtttgcatag
                                                                       540
                                                                       600
caagacatta ttgcccttca gcctggcaga aaaacataaa ctcaggtgta tattttataa
taaacattgt attgaatgct aagaatgata cactgttgaa catctcctga atggtttgcc
                                                                       660
                                                                       720
ttcttgtaaa tcataccaat tgtttagaca attgaaattc caagetettt etetteteee
atataaaaac caacagaaac anggaggctg ttagtagcaa gctcctcatg ggaaanggt
                                                                       779
      <210> 141
      <211> 986
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(986)
      <223> n = A, T, C or G
      <400> 141
aancennnn ntttatttgg gnaaacccaa ttgggnaaaa ttnaacccgn ccccccnaaa
                                                                        60
ngcccttttn gggggttnaa cccccggaa aaccctttcc ggggggaaat tccccaacct
                                                                       120
                                                                       180
ttaaaqnttt aaaaacccgg gggccccggg cccccaaagt ttgggttggc cnttggggga
aaaatttttt ccgggcccc cnttttaaag cccggttggg gtttccggcc ngggggcccc gggaaagggt tnaccctttt ttttttaact tttttnnntt tcctttttn nttccttttt
                                                                       240
                                                                       300
tttcttttt tttttctttg gtntnnnttt ttttttcaat tttttggttt ttggttttg
                                                                        360
gttatggttt ttttagaaca ggggtcccac tctgtcaccc aggctggagt gcagtggtgc
                                                                        420
480
gctaatttat gtaatttttg tagagacgag tttcaccacg ttacctaggc ttgtcttgaa
                                                                       540
cacctgggct caagcaatet tecageecca geeteecaaa gtgetgggat tacaggtata
                                                                        600
aaccacaatg cccccgtttt tactctttac tgcatccttc ccatcagtat taattcctca
                                                                        660
gaaatttagt acccctgtgc ttcattcagt atcagtaacc ctgcaatgat ttttacaaat
                                                                        720
atctttttct agtgggtttt ttacttagag gaaagaactt tgtaatagct cttaatgttt
                                                                        780
atatataaga gaagacagaa tggaaaatgt tttttgaagt caaatattgc atgatgtaaa
                                                                        840
                                                                        900
qaaaaaactt taaacttaaa tqaqtanggt tgtcctgaat tacactggta actctctact
totttattaa agaagttata gtaagatgoo tttggntaco tgatttoagt gtacotgooc
                                                                        960
                                                                        986
gggccggccg ntcaaaaggg cgaant
```

```
<210> 142
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (780)
      <223> n = A,T,C or G
      <400> 142
gggcccgtan agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                        60
tcgagcggcc gcccgggcag gtacactgaa atcaggtaac aaaggcatct tactataact
                                                                       120
totttaataa agaagtagag agttaccagt gtaattcagg acaacctact catttaagtt
                                                                       180
taaagttttt totttacato atgcaatatt tgacttcaaa aaacatttto cattotgtot
                                                                       240
                                                                       300
totottatat ataaacatta agagotatta caaagttott toototaagt aaaaaaccca
ctagaaaaag atatttgtaa aaatcattgc agggttactg atactgaatg aagcacaggg
                                                                       360
gtactaaatt totgaggaat taatactgat gggaaggatg cagtaaagag taaaaacggg
                                                                       420
ggcattgtgg tttatacctg taatcccagc actttgggag gctggggctg gaagattgct
                                                                       480
                                                                       540
tgaqcccagg tgttcaagac aagcctaggt aacgtggtga aactcgtctc tacaaaaatt
cataaattag ctggtgtggt ggcctgcacc tctagtccca gctaggtggg aggtttcagt
                                                                       600
                                                                       660
gacctgtgat tgcaccactg cactccagcc tgggtgacag agtgggaccc tgtctaaaaa
aaacataaca naacanaacn naatgaaaaa aaaaacaaga aaaaagaata gaaaaagaaa
                                                                       720
                                                                       780
aaagtnaaaa gtncctcggn cgcgaccacg ctaagggcga attccagcac actgcggccn
      <210> 143
      <211> 794
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(794)
      \langle 223 \rangle n = A,T,C or G
      <400> 143
nnnnnnnnn nnnacnnttg actgataccc aacttggtac cgactcggac cactagtaac
ggccgccagt gtgctggaat tcgccctttc gagcggccgc ccgggcaggt acagaaagaa
                                                                       120
gagccaggat attetttgtt tteetaageg tagetgtgag caacattate teteetaetg
gettetttga ggtatgagag teateattae atetgtgtge tttgteaagt tatatgteae
                                                                       240
                                                                       300
aattccacct gtgggtagag aacaagcaca agagtcacat caactgtgtg ctgggccagg
gttatgtcac aatottooot gagagcatgo accaggoaga agagtcacat cacagggtto
                                                                       360
tcaaccagag atgttacaat cctctcctga aagcaggaca caggaaaaag agtaagatca
                                                                       420
cctgcatgct gggctcagat atatgtcaca agactcactg tgggcaaagt ccagaaggac
                                                                       480
agacagaaca getggttget tgacecagea atatgteaca atetteteta tgggcagaat
                                                                       540
gcaggcagaa gtagagggct tcatcttcca ggtgatggat taaaaaaata catcccaagg
                                                                       600
ctctctgtgg gaaagggctc angcagaaac tttccaaccc ctangtgttt gcttcagtga
                                                                       660
                                                                       720
tatgtcacaa ttaaccaaaa tatgcaggtt tcaagcaagt gagtnaagtc atatcaccta
                                                                       780
ngqtqcttqq tccanaaatc tgncacaatc ttttttttt ttttggcatg cccagcngaa
                                                                        794
ttgaaaagtc ncan
      <210> 144
      <211> 782
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (782)
      <223> n = A, T, C or G
      <400> 144
```

```
60
cnanngggcc entagageat getegaegge egecagtgtg atggatatet geagaatteg
cccttagcgt ggtcgcggcc gaggtacaat cttggctcac tgcaacctcc acctcccggg
                                                                        120
                                                                        180
ttcaagcaat tctcctggct cagcctcctg agtgctggga ctacaggcat gcaccaccac
tcccacctaa ttttgtattt ttgatagaga cggggcttct ccatgttggt caggctgttc
                                                                        240
tcaaactcct gacctcaggt gatttgactg tcttagcctc ccacagtgct gagcttatag
                                                                        300
gcaggtgcca cgacacctgg ctggaatcat ttatttcaac atatctctgg gtccaacaac
                                                                        360
atggtgatgc aacttteetg catgggeeet eccaeagaaa taetetaata catettttea
                                                                        420
480
aagattgtga cagatttctg gaccaagcac ctaggtgata tgactttact cacttgcctg
                                                                        540
aaacctgcat attttggtta ttgtgacata tcactgaagc aaacacctag gggttggaaa
                                                                        600
gtttctgcct gagcccttcc acagagagcc ttgggatgta tttttttaat ccatcacctg
                                                                        660
ggagatgaaa ccctctactt ttgcctgcat tctgcccata gagaagattg tgacatattg
                                                                        720
ctgggtcaag caacccaget ggtetgetgt cettntggac tttgcccaca agtgagtttt
                                                                        780
                                                                        782
      <210> 145
<211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      <223> n = A, T, C or G
      <400> 145
annnttgacc tgatacccag cttggtaccg agctcggatc cactagtaac ggccgccagt
gtgctggaat tcgccctttc gagcggccgc ccgggcaggt acttttttta cttttttt
                                                                        120
ctttttttt ttggacatct gttttcactc ttaggctttt aaacaatagt tattgctttt
                                                                        180
atcoctctca gattctaata actgagagcg atggggctat attgaatctc tgtatgcact
                                                                        240
gagaactgag ctatgaagag gatettatta aactgetggt etgaetttat ggattgaeac
                                                                        300
tgttcctttc ttttattgtg aaaaaaaaaa aaaaccctga aagtcttggg aaccccctaa
                                                                        360
agtettttgg gaateeteaa aaageatggg aagttaagta tttagetaca taaatgttgt
                                                                        420
aagatcatat cttatgtata gaagtaataa gaccatttgg aattactgga ctaattgaat
                                                                        480
agttaagggt totattoggg acaataaaat qtattttgaa aqtqctqcta actattqatq
                                                                       540
ctgacagtgt ttcactccta tgagtgaccc aaacatatta taaatatgtg gtaaagggaa
                                                                        600
tggagectgt ggggttgage agaatgttgg acttttttt tnnnnnnnn nttttttnge ttnetattng atngataaeg atttenggat tneetttaaa nnenengang gtttggaaae
                                                                        660
                                                                       720
tttggactgg attctggttc cengaaacag gttcactggg nnccggggga cacttttaan
                                                                       780
      <210> 146
      <211> 778
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(778)
      <223> n = A, T, C or G
      <400> 146
ttgggcccnt agagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                        60
tagogtggtc geggccgagg tacatggagg cetggactgt aaagagacta eggaaggggc
                                                                       120
agcatgtgtg ttttgcttct cagattcatt gtcactcacg ttgcataaag tcctcagttq
                                                                       180
tttttaagta attgttttac tatggatata ttaaacatac agaataaaaa agggaataaa
                                                                       240
catacaattt ggcaaacccc ctactgagcc tttaaaaata ttagaaggtt ggtattaaac
                                                                       300
caggtaactt acggatttgg aaaaaaaaa aaaaagaaag cattgaatat ggctgggcgg
                                                                       360
ttctctgggg atccttgggc agacccagtt tgccccgatt tctcactgta gttttcaaga
                                                                       420
ataactgtag gaggcggtgg gagtgcagca tcctgagata agggagacga gccagaacag
                                                                       480
egegggeact gttecagece cectagaaat gggttgatet teagtgette ageteagtgt
                                                                       540
gtcatgette acceaegatg taaaageeta ggateggagg etteeceagg gttegteage
                                                                       600
tgtggcacaa tagggcccgt tgcaaataag attctattcc tgtcagacag tttcgtgagt
                                                                       660
```

```
ttgtggggga acactcaccc tagettetgn tgnetettea tgeetgtgtg tteetaatca
                                                                        720
acttttttgn gtaacttggt gttttgaaag tgtcaccagc acacaatgga acctgtcn
                                                                        778
      <210> 147
      <211> 784 .
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(784)
      <223> n = A,T,C or G
      <400> 147
acnntatgac ctgattacgc caacttggta ccgactcgga ccactagtaa cggccgccag
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg tactttttt tttttttt
                                                                        120
tttttttttg ggattgaatc aacatgcttt aataggaaaa gatgtatggg ctatatatgn
                                                                        180
atcaatctgg ngaancctcg ntctaataaa gggtcttttt cttttctatg atacacacag
                                                                        240
ncacgctgat aatatgcnaa tgaacatttt cctttatgnc tctncanata atggttattg
                                                                        300
gctgaggnaa attaaattcc caccanggnt tgctgncagt attttaacac ccacattagt
                                                                        360
atatgentne agggteataa eeceetaaaa tecatnatge aacettatta atetggettg
                                                                        420
ggantcongg ttaatgottg gatttantto otgattacac thontngaaa agtgagacat
                                                                        480
ttgncattcc caactttggg aaaaccaact tatattcaac cntntnaatg aaggccatct
                                                                        540
tgatggnete aacactaatt titatgatge aaatttatae aengattiit gtaaagggea
                                                                        600
aagttttaaa agcgtattta acttgatggt ttctatcagc attaatnaaa tggncatgaa
                                                                        660
taggcattaa aaacagttgc cagtgatnat ctgcatgaaa ggaaaaaagaa ccctgcaaat
                                                                        720
ggctattgaa nttggaaata ttggntttga natgtaagaa aatntttaga aagctcncnc
                                                                        780
tgng
                                                                        784
      <210> 148
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (775)
      <223> n = A, T, C \text{ or } G
      <400> 148
gggcccntan agcatgctcg acggccgcca gtgtgatgga tatctgcaga attcgccctt
                                                                        60
agegtggteg eggeegaggt acaaageact gtttaaaaec agteeaagat acttaateea
                                                                        120
aactgtatca tgattcttca ttagaaatct agacaccact catggtggtt tcttacactt
                                                                       180
taaaaaagttg aggcattttc agtgtgagca ttctgaatat ctcttacata tcaaaaaacaa
                                                                        240
tacttccaac tcaatageca tttgcagggt tctttttcct tcatgcagat tatcactggc
                                                                       300
aactgttttt aatgactatt catgaccatt ttatttatgc tgatagaaaa catcaagtta
                                                                        360
aatacgcttt taaaactttg tcctttacaa aaatcagtgt ataaatttgc atcataaaaa
                                                                       420
ttagtgttga gaccatcaag atggccttca tttatatggt tgtatattag ttggttttcc
                                                                        480
cagagttggg aatggcagat gtctcacttt tctatgtagt gtaatcagga aataaatcca
                                                                       540
agcactaaac aggaatccca agacagatta ataaggttgc atgatggatt ttagggggtt
                                                                        600
atgaccetgg acgcatatac taatgtgggt gttaaaatac tgacagcaag ccctggtggg
                                                                        660
aattaattta cctcagacaa taaacattat ctggagagac ataaaggaaa atgttcattt
                                                                       720
gcatattatc agogtggctg ggtgtatcat agaaaaagaa aaagaacctt tttan
                                                                        775
      <210> 149
      <211> 783
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (783)
```

 $\langle 223 \rangle$ n = A,T,C or G

```
<400> 149
acnntatgac ctgatacgcc aagettggta ccgagetegg atccaetagt aaeggeegec
                                                                        60
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacccgatta aaccagagca
                                                                       120
aaaactacct totgoaggto agggagotaa tgacatggoa ttggocaaac gttocogcag
                                                                       180
                                                                       240
togaactgot acagaatgtg acgttogtat gagcaagtot aagtcagaca atcagatcag
tgacagaget getttggagg ccaaagtgaa ggatettete aegetggcaa aaaccaaaga
                                                                       300
                                                                       360
cgtagaaatt ttacatttga gaaatgaact gcgagacatg cgtgcccagc tgggcattaa
                                                                       420
tgaggatcat tctgagggtg atgaaaaatc tgagaaggaa actattatgg ctcaccagcc
                                                                       480
gactgatgtg gagtccactt tattgcagtt gcaggaacag aatactgcca tccgtgaaga
                                                                       540
actcaaccag ctgaaaaatg aaaacagaat gttaaaggac aggttgaatg cattgggctt
ttccctagag cagaggttag acaattctga aaaactgttt ggctatcagt ccctgagccc
                                                                       600
                                                                       660
agaaatcacc cctggtaacc agagcgatgg aggaggaact ctgacttctt cagtggaang
                                                                       720
ctctqccct ggctcantgg gaggatctct tgagtcagga tgaaaataca ctaatggacc
                                                                       780
attagcacag tacttcatgg caatttagac agtgagtgca atgaggtcta ccagcccctt
                                                                       783
      <210> 150
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (771)
      \langle 223 \rangle n = A,T,C or G
      <400> 150
gggcccntan agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
cgagcggccg cccgggcagg tactgtgttg gttctcttcc atctggtgta tccgttcagt
                                                                       120
                                                                       180
caggcaagcc acggacactt cactggcatt cccgctgctc cccttccggg agcgctctat
gctggggatg ccttccgact ctgaggagga tggtgcatcc agcgcatcat cgctcgatgt
                                                                       240
                                                                       300
gaggggctgg tagacctcac tgcactcact gtctaaattg tccatggagt tactgtgctg
                                                                       360
atggtccatt agtgtatttt catcctgact caagagatcc tccactgagc caggggcaga
                                                                       420
gccttccact gaagaagtca gagttcctcc tccatcgctc tggttaccag gggtgatttc
tgggctcagg gactgatagc caaacagttt ttcagaattg tctaacctct gctctaggga
                                                                       480
                                                                       540
aaagcccaat gcattcaacc tgtcctttaa cattctgttt tcatttttca gctggttgag
ttcttcacgg atggcagtat tctgttcctg caactgcaat aaagtggact ccacatcaag
                                                                       600
                                                                       660
teggetggtg agceataata gttteettet cagattttte ateaceetca gaatgateet
cattaatgcc cagctgggca cgcatgtctc gcagttcatt tetcaaatgt aaaatttcta
                                                                       720
                                                                       771
cqtctttqqt ttttqqcagc gtgagaagat ccttncttgg nctcnaagen g
      <210> 151
      <211> 778
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(778)
      <223> n = A,T,C or G
      <400> 151
acnntatgac etgatacgec agettggtac egacteggat ecaetagtaa eggeegecag
tgtgctggaa ttcgcccttt gagcggccgc ccgggcaggt acttttttt ttctttttt
                                                                       120
acatetgatt ttaatgette gttaaettea aaaggaaetg gtagagttea gaaggtgage
                                                                       180
tgttgttttt ctaaacctct tcccaggaag gagacattga cacttgaatt tttgccacct
                                                                       240
ttttcctcat tagaaggaaa gtagaaagcc ttactgtagg atttttaaaa aaaaatccat
                                                                       300
ctcaccccat attqqtctta aataagtata gactaattaa cctaagctac ctttaacaac
                                                                       360
gtagaattta gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac
                                                                       420
ttttttcccc acctctgccg cccaggctag agtatagtgg tgtgatcttg gcccactgca
                                                                       480
```

```
acctotgett cotaggitca agigattete etgecteage etcecaagita getgggattg
                                                                        540
taaqaqtatq ccaccacqcc caqctacttt ttgtattttt agtagagaca gggtttcatc
                                                                        600
atgttggcca ggatggtctc ttaactcctg ccctcaaagt gatccaccag agaggagatc
                                                                        660
cteggeetne ccaagtgetg ggattatagg catgageeae egtaceeage etaetteta
                                                                        720
attaattaaa aaaaaannnn nnnnaaaaaa aacttnccaa atgagctgat aaaaacng
                                                                        778
      <210> 152
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (772)
      \langle 223 \rangle n = A,T,C or G
      <400> 152
gggcccntag agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
cgtggtcgcg gccgaggtac catgctgact tcttggtatc ttttaaggcc taattttccc
                                                                        120
                                                                        180
ttccttgaga ttactgtagt gtgttccagc taatttctat ttggaaacga gttggaacag
ctgaaaacta ggtattattg aaggcaaagt agcctcacgt cagtttttta tcagctcatt
                                                                        240
tgggaagttt tittttttt tittttttt titaattaat tagaaagtag gctgggtacg
                                                                        300
                                                                        360
gtggctcatg cctataatcc cagcacttgg ggaggccgag gatctcctct ctggtggatc
acttgagggc aggagttaag agaccateet ggccaacatg atgaaaceet gtetetacta
                                                                        420
aaaatacaaa aagtagctgg gcgtggtggc atactcttac aatcccagct acttgggagg
                                                                        480
ctgaggcagg agaatcactt gaacctagga agcagaggtt gcagtgggcc aagatcacac
                                                                        540
cactatactc tagcctgggc ggcagaggtg gggaaaaaag taggacccct gtcctatatt
                                                                        600
                                                                        660
caggittitte teacatatat gaacceatet aaattetaeg tigitaaagg tagettaagt
                                                                        720
taattagtet ataettattt aagaccaata tggggtgaga tggatttttt tttaaaaaaat
cctacagtaa ggntttctac tttccttcta atgaggaaaa angnggcaaa at
                                                                        772
      <210> 153
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      \langle 223 \rangle n = A,T,C or G
      <400> 153
acnntatgac ntgaatacgn ccaagettgg taccgagete ggatecacta gtaacggeeg
                                                                         60
ccagtgtgct ggaattcgcc cttagcgtgg tcgcggccga ggtacttttt ttttttttt
                                                                        120
ttttttttttttttttagttaaa gaatgettta ttaatacaaa tacacacaaa etetgaagca
                                                                        180
ctaagaaatt taaatatota tgtcacagca aacaggtggc aattcaacat ccagggtcga
                                                                        240
cagaatgett gaaggagact gcaacagatt ggatteecat ggtggagagg gcatntteac
                                                                        300
aggtgaaggg gggcccagct gaaacagctt ttcaagctct ctctcctcgt caaggatcat
                                                                        360
gagaggcact ccactcaagg ggaggtgcgc aatctggtgc tcttcaggca ggtcaaaact
                                                                        420
ctcaaagtct agaggattga agggaaagaa tttttctatt tctggatagg catcatctga
                                                                        480
ggcaggaaca gagctttttg ctttaacagt cttctcagtc atctttttgg cagaaaagct
                                                                        540
tggctgtttt tgtttgaggg gtcccttggt ctttacagac ttttctgtag ctctgttgac
                                                                        600
agtteceaaa qeetttetag tagetttagg taaggetggt ggggeatega aegttttgee
                                                                        660
aaaacgtggt gttgaaactt gagatctccc atctaangct ttgattgaan gtccagaccc
                                                                        720
cagetteage ceateettag caaceacaen ggtgeetggg tetneatttt cettatnang
                                                                        780
      <210> 154
      <211> 770
      <212> DNA
      <213> Homo Sapien
      <220>
```

```
<221> misc_feature
      <222> (1) ... (770)
      <223> n = A, T, C or G
      <400> 154
gncctgtnna gctgctcgag cggccgccat gtgatggata tctgcagaat tcgccctttc
                                                                        60
gageggeege eegggeaggt acgeggggae egeggeetea gatgaatgeg getgttaaga
                                                                       120
                                                                       180
cctgcaataa tccagaatgg ctactctgat ctatgttgat aaggaaaatg gagaaccagg
caccegtgtg gttgctaagg atgggctgaa gctggggtct ggacettcaa tcaaagcett
                                                                       240
agatgggaga totcaagttt caacaccacg ttttggcaaa acgttcgatg ccccaccagc
                                                                       300
cttacctaaa gctactagaa aggctttggg aactgtcaac agagctacag aaaagtctgt
                                                                       360
aaagaccaag ggacccctca aacaaaaaca gccaagcttt tctgccaaaa agatgactga
                                                                       420
                                                                       480
gaagactgtt aaagcaaaaa gctctgttcc tgcctcagat gatgcctatc cagaaataga
aaaattottt coottoaato ototagactt tgagagtttt gacotgootg aagagcacca
                                                                       540
gattgcgcac ctccccttga gtggagtgcc tctcatgatc cttgacgagg agagagagct
                                                                       600
tgaaaagctg tttcagctgg gccccccttc acctgtgaag atgccctctt caccatggga
                                                                       660
atccaatctg gtgcagtctc ttcaagcatt ctgtcgaccc tggatgttga attgccacct
                                                                       720
                                                                       770
gtttgctgtg acatagatat ttaaatttct tagtgcttca gagtttgngg
      <210> 155
      <211> 767
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(767)
      <223> n = A,T,C or G
      <400> 155
acattatgac tgatacgcca gcttggtacc gactcggatc cactagtaac ggccgccagt
                                                                        60
                                                                       120
gtgctggaat tegecettag egtggtegeg geegaggtae gegggeeege tggataactg
ccctgggaca cagcagcggg aagccgcctg cagactgaac ctcactgacc caggtggaaa
                                                                       180
togttaggtc atttactgct aagcagccag atgaactctc cctgcaggtg gctgacgtcg
                                                                       240
                                                                       300
tecteateta teaaegtgte agegatgget ggtatgaggg ggaaegaeta egagatggag
                                                                       360
aaagaggetg gttteetatg gaatgtgeea aggagataac atgteaaget acaattgata
agaatgtgga gagaatggga cgcttgctag gactggagac caacgtgtag tctctcagat
                                                                       420
ggtcttttgt tactgcaaga tttgcacgac acttaccggg ctggttggtt ctgggctagt
                                                                       480
tttattgnta attttgtcac agcetattta attaaaagaa cgaaaacact tgcctttaag
                                                                       540
cttgccaggt tgttctgctc tctcatgaga agagcttgga tacagtgagt ttgcacagct
                                                                       600
cagtttttac ctaaccacac acttgcagac ctnctgaggt acctgcccgg gcggccgctc
                                                                       660
                                                                       720
gaaanggega attetgeaga tateeateae aettggeggn egetegaaea tgeatetaga
                                                                       767
ngqcccaatt cgncctatag tgagtcgtat tacaattcac tggncgc
      <210> 156
      <211> 827
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (827)
      <223> n = A, T, C \text{ or } G
      <400> 156
attgggcccc tagatgcatg ctcgacggcc gccagtgtga tggatatctg cagaattcgc
                                                                        60
cctttcgagc ggccgcccgg gcaggtacct caggaggtct gcaagtgtgt ggttaggtaa
                                                                        120
aaactgaget gtgcaaactc actgtateca agetettete atgagagage agaacaacet
                                                                       180
ggcaagctta aaggcaagtg ttttcgttct tttaattaaa taggctgtga caaaattaac
                                                                        240
                                                                       300
aataaaacta gcccagaacc aaccagcccg gtaagtgtcg tgcaaatctt gcagtaacaa
                                                                        360
aagaccatct gagagactac acgttggtct ccagtcctag caagcgtccc attctctcca
cattettate aattgtaget tgacatgtta teteettgge acattecata ggaaaceage
                                                                        420
```

```
ctctttctcc atctcgtagt cgttccccct cataccagcc attggctgac acnttgattg
                                                                       480
gatgaaggcc ancttanncc nactngcagg gagaagtcaa tttgnttgnt taaccnntna
                                                                       540
atggancett accountine acctggggte aagtgagggt teaagtetge angeggette
                                                                       600
cegetgetgt ggteccaagg geaagttatn cageggggee egegttacet tgggeegggg
                                                                       660
accaacgeet taangggeeg aaatttecaa geacaettgg eeggeeegtt acctagtggg
                                                                       720
atnocegaact togggtacco aaagoottgg gogttaatca atgggtcaat aggottggtt
                                                                       780
tcctggtgtg naaaattggt aatccggttc acaanttccc cacaaca
                                                                       827
      <210> 157
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(818)
      <223> n = A,T,C or G
      <400> 157
aacactatga cctgatacgc cancttggta ccgnctcgga tccctagtaa cggccgccag
                                                                        60
tgtgctggaa ttcgcccttt cgagcggccg ccgggcaggt acataatctg gaaatttatg
                                                                       120
ttacaggtat gcatatttgt atatgaaaaa tattaactga gaaattactg agcttcttag
                                                                       180
caaaaaatat aattatttca gagatatgat acagtttaat atctgccttc ctcaaaaagt
                                                                       240
cagaaaataa aaagttttaa attgcatata ttttcatttc ttacatatgt cagaacactc
                                                                       300
agaattttta ataaaatgtt ttaaaacata attataagtt gttactttta tttctatggt
                                                                       360
tagtggaacc cacagggtcc tgtatctgat taaatggagg atatattagg agaatttttt
                                                                       420
agaagaatga cacatgtgac ataccaccat atttgcaaga aaatataact tgatagtaga
                                                                       480
gtaagttagc tgctttatat gatgaattaa aggcactagc tcttagaaaa aaaaggatta
                                                                       540
aaatgotgac ttoagtaata atgtaaggag ototgotott taacatttoo taattaggta
                                                                       600
taaactatga tggaagggaa aggtggaatg gaagtntcta cntnttacca ttggctttcn
                                                                       660
ttcatgaaat tggcagnnag cctnccattt cnnnaggnct ttaatnaaaa antttttccc
                                                                       720
aacttttnct tttcnaaaaa nttnttnncc nnatngnnaa ctggnggtna aaacccggct
                                                                       780
tttttggggg gaaancctac ctggntnggg naaaaant
                                                                       818
      <210> 158
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <221> misc feature
      <222> (1)...(772)
      <223> n = A,T,C or G
      <400> 158
ntgggccont nnagcatgct cgacggccgc cagtgtgatg gatatctgca gaattcgcc
ttagcgtggt cgcggccgag gtacttcaac cacccctcct acaaaactct atacccttgt
                                                                       120
catattaaaa ttgtatgtta tgccaggctt ccctaataca acaaaatctc tgaataaaac
                                                                       180
ctattaaata tacaatttet atcaacatge etgecacaca tgettaataa tigettagtg
                                                                       240
aatacaagat taatgcatga gtgcctaagt tacttcatct agtataacaa atgacaatat
                                                                       300
ctcatttgtt tcccgaagta tccttattcc attcaagctc tgaagaaagt attaatgata
                                                                       360
ttcgtcctta agtaattttt tctgcattca aatctcacca ttcaaatgat tttccaacag
                                                                       420
tagtttcccc aaaagcagtt tacacagtta catttgttat aatttttgaa agaaaagttg
                                                                       480
ggaaaatttt attaagactc tgaatgtagc ttactgccaa ttcatgaaga aagcaatgta
                                                                       540
atacgtagat acttcattcc acctttccct tcatcatagt ttataactaa ttaggaaatg
                                                                       600
ttaaagagca gageteetta cattattaet gaagteagea tttataettt tttttetaag
                                                                       660
agctagtgcc tttaattcat catataaagc agctaactta ctctactatc aagttatatt
                                                                      720
ttcttgcaaa tatggtggta tgtcacatgt gtcattcttc taaaaaaattc tg
                                                                       772
      <210> 159
      <211> 1024
```

<212> DNA

<213> Homo Sapien

```
<220>
      <221> misc feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
ttgggnaaaa ttttaaaccg gccccccaa angncccttt ttgggggntt aaaccccccg
                                                                        60
quaangcccc tttccggggg gggaaattcc ccccaaccct ttaaaggttt aaaaacccgg
                                                                       120
gggccnccgg gccccccaaa ggtttgggtt tgggcccttt ggggggaaaa aattttttcc
                                                                       180
                                                                       240
gggcccccc ntttttaaag gccgggttgg ggggtttccc gggcccgggg gcccccgga
                                                                       300
aaaggggttt aaccecettn aattitittin gggtttttee eeccaaatn gggtttecaa
                                                                       360
ttttttttt tttaaaaaac ccaaaanggg aaaaaaaggg gttggcccaa aatttaaggg
cctttctttc aaaagggttt cctttgggaa aaaaaaacct tgggttgggg gaaaaggttt
                                                                       420
ncccaaaaat ttaaacctqq qaaaaccttc tttgggnaac ccactttaaa aatttaaant
                                                                       480
                                                                       540
taaanttaaa tttaaattta aanttaagga atgggnttgg aaaaaaaaag gaatatteen
ttaatttqqc cttaattttt taatttqntn atttgactgg tnatgnnttt acttttnaaa
                                                                       600
aachtnetnn ccaaaaacca attttachtg ghenngtggg atttacentn ttenattace
                                                                       660
ngggagttaa cccaactnga acntttngga gggnccagtc ctccataggg acctccntca
                                                                       720
nttntgatnc caactgcaag ttcagggaaa ttctcacatc ccccttgggc natatatctc
                                                                       780
tttaaaaqcn cctcacaqca ctcactqaan tctattatat tatagatang gtntattatg
                                                                       840
                                                                       900
ggaaangggt nacanntcaa natnncccaa cgcggggana cacanngngc agngcccgat
gathttccna nacacagant ttggtgttct ctggagncgt ttcccccnta gnaaaatgtt
                                                                       960
gacachtgga cagagttttt acccccaggg gaacgthaat caatctttgg aagtttcaaa
                                                                       1020
                                                                       1024
      <210> 160
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
     . <221> misc_feature
      <222> (1) ... (771)
      \langle 223 \rangle n = A.T.C or G
      <400> 160
gggcctctnn agcatgctcg agcggccgcc agtgtgatgg atatctgcag aattcgccct
                                                                         60
ttcgagcggc cgcccgggca ggtactgtaa gttattttct tccttatctc ccaatgacac
                                                                       120
tgttttctac atgaaaaata ccattttggc tttatcaaca tgttattaat tcataatatg
                                                                       180
agagatetat cageactatt tgtaaaaata tteaattaaa aaaattaaga tgatttatag
                                                                       240
                                                                       300
ttgtgtggta aagaatttga cettaceeaa aggaggteag gettttgeee teageettaa
ggagataatc ttgtcatacc caataaaagt gttattttaa agtgaggctg actacacctg
                                                                       360
                                                                       420
ataatccagc ttgagggaca gttatgccag tttgaccaac tagatgattt agggagcttt
ctctcccaac ttcaaagctg tgatgaatca aacaggtaat taatcgatca tgcttatgta
                                                                       480
                                                                       540
atgaageett gattgaaact teaaagattg attgaegtte ettggttggt aatactetgt
catgtgtcaa ttctagaagg gtaatacgtc ctgaggataa cagaagctct gtgtttggaa
                                                                       600
                                                                       660
tcatcetqqa etetqeaett tgntteteet getttggetg attttgatet gtaacettta
cctataataa accataacta taatataata gatttcagtg agtgctgtga ngctttctag
                                                                        720
tgatttattg aacctaaggg tggatgtgag aatttnctga acttgcagtt g
                                                                       771
      <210> 161
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (771)
      <223> n = A, T, C or G
```

```
<400> 161
                                                                        60
acnettgace tgategeeag ettggtaceg acteggacee tagtaacgge egceagtgtg
ctggaattcg cccttagcgt ggtcgcggcc cgaggtacag aatttattat gaaatagctt
                                                                        120
                                                                        180
aatggcaagt ggtaatttag aagaattaag ttatcagata ggagatatat taaaatattt
                                                                        240
aaaaattgga tatattettg aageeetttt acacaagtaa tttetataat ttgattgtaa
                                                                        300
tgaaagtata atataccttg ttactattat cagattaatt tttgaaagta gaattcctta
atcaagccaa ggttatgctg ctttataaga aattaatcag gtagtttaac actagagctc
                                                                        360
attagccaac ctgtatgtag cacaaaataa tcatctctga taaataccta taaatatatt
                                                                       420
                                                                        480
ttattcatac ttttaaatat tttacaattc aaataaaaac cttatatgta gacaatctgg
gctaaatttc catgtatgtt ttgaaaaata atgttagcat gaatagattc atatttaaat
                                                                        540
                                                                        600
atgattttaa atactcttaa tagaggagac ataagaaata tttacataaa agctaagtag
catgatacag ctcatggtta ttttcctcat aggaaaacaa ttacttgatt tttttttgca
                                                                        660
                                                                        720
taggattaaa gactgagtat cttttctaca ttcttttaac tttctaangg gcacttctca
                                                                        771
aaacacagac caggtagtaa atctncactg ntctaaggtc tcaccccact t
      <210> 162
      <211> 768
      <212> DNA.
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (768)
      \langle 223 \rangle n = A,T,C or G
      <400> 162
gggcccctnn agctgctcgn cggccgccag tgtgatggat atctgcagaa ttcgccctta
geggeegeee gggeaggtae tacaaaaaca gaataatttt gaagttttag aataaatgta
                                                                        120
                                                                        180
atalatttac tataaticta aatgtttaaa tgcttttcta aaaatgcaaa actatgatgt
                                                                        240
ttaqttqctt tattttacct ctatgtgatt atttttctta attgttattt tttataatca
                                                                        300
ttatttttct gaaccattct tctggcctca gaagtaggac tgaattctac tattgctagg
tgtgagaaag tggtggtgag aaccttagag cagtggagat ttactacctg gtctgtgttt
                                                                        360
                                                                        420
tgagaagtgc cccttagaaa qttaaaagaa tgtagaaaag atactcagtc ttaatcctat
                                                                        480
qcaaaaaaa atcaaqtaat tgttttccta tgaggaaaat aaccatgagc tgtatcatgc
tacttagett ttatqtaaat atttettatg teteetetat taagagtatt taaaateata
                                                                        540
tttaaatatq aatctattca tgctaacatt atttttcaaa acatacatgg aaatttagcc
                                                                        660
cagattgtct acatataagg tttttatttg aattgtaaaa tatttaaaag tatgaataaa
                                                                        720
atatatttat aggtatttat cagagatgat tattttgtgc tacatacagg ttgggctaat
gagetetagt ggtaaactae etgataattt ettataaage ageatace
                                                                        768
      <210> 163
      <211> 776
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (776)
      \langle 223 \rangle n = A.T.C or G
      <400> 163
nantatqacc tqatacqcca acttggtacc gactcggatc cactagtaac ggccgccagt
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac tcttccgcag agggaaggct
                                                                        120
                                                                        180
gtagaagtet ttgcaagett catacagaga aatacaaaag gtgtgatgee attaactggt
cctttctaaa gcattaggaa tttagtgaaa ctctcaaaca caaaactgaa aagccatttg
                                                                        240
aacaaatctc atatacttgt agataagctt ttttttattt aaagcataca aattcaaatc
                                                                        300
tttcaagcag aaaattcagt caagtgagat ccattggtgg tttgagttca aagtcagtga
                                                                        360
gcaaatggaa atcattgcgg catetetete attteeetag tggacattag accaetcaaa
                                                                        420
                                                                        480
atgtgtcaca taatttacag ccccttggta gtaattgaat atacacgttg agagtgcact
ggcagaacac ttaagaaaga ttgaatgcag gaggaccagc ttacgttatt tttggctcta
                                                                        540
ctctggtttt tgcttttaat gttttttctt gagattaatt tcaattgggt tgttccatcc
                                                                        600
                                                                        660
tattcaaaca aatgetttga gagaagagat gaacagcage atcaaataaa attgtgatat
```

```
ttagtttnag agacatcang tgttgtaatc aaataagaca gaanggccaa gttaaaatct
                                                                        720
gtgattngca taaatgaatt taactgttag aatagcanaa ttgagaggtn gattan
                                                                        776
      <210> 164
      <211> 773
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (773)
      <223> n = A, T, C or G
      <400> 164
                                                                         60
cgggcctcta gatgctgctc gacggccgcc atgtgatgga tatctgcaga attcgccctt
tegagegeeg ceegggeagg tacacagtgg ataccacata etegetetga ggaagaagga
                                                                        120
                                                                        180
ggaggagaaa gaggagaagg aaggaaattt tcaaatgaca atttctatca ggactcattt
                                                                        240
toctattata agttoagaat acitggacgt otttataaaa toaagttgaa atototacta
                                                                        300
ttttgatctg tattctctta aatattaaag gttataccta gggagattcc atgttgactg
gcaaacaaag cataccattt taagaataac tottcataaa atatgtgtot aagaattaaa
                                                                        360
                                                                        420
aqtqtctagt aacagataca caaaagagag atttagaata attaatattt aaagacagat
aattttaatg tttcacactt ttaactacaa aattctttgt tttcctaaat attagcaaaa
                                                                        480
atgttatata ttaaaataaa tottgaaaat otcaccotac atttagataa tagttcaaaa
                                                                        540
greatattge taatetacet etcaattetg etattettae agettaaatt catttatgge
                                                                        600
                                                                        660
aaatcacaga ttttactttg tccttctgtc ttatttgatt acaacacctg atgtctctga
aactaaatat ccaatttatt tgatgetget gttcatetet tetetcaaag cattngtttg
                                                                        720
                                                                        773
aatanqatqq aacaacccaa ttgaaattaa tctcaaggaa aaacattaaa ant
      <210> 165
      <211> 783
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (783)
      \langle 223 \rangle n = A,T,C or G
      <400> 165
tnnnnnacac tatgacctga ttacgccanc ttggtaccga ctcggatcca ctagtaacgg
                                                                         60
                                                                        120
ccgccagtgt gctggaattc gcccttagcg tggtcgcggc cgaggtacag taggaaaata
agaataacaa cgggcaaaat ctttttagaa catttatgct ttatctgttt tagcttctaa
                                                                        180
                                                                        240
aacaatcctq aaqqatqaat aattatcatg agtatagcag aatttaattt tccctgttgc
tccaaaattt taatgaaaac tttacggttg agagaaatag gtaaataaaa aaacttccta
                                                                        300
aaattctaaa qacaattgtt qaataaaatt taagtgaatg agtttgtgct tcatatttaa
                                                                        360
cttttaactt tccaataggc tttattaaat ggaaaactga aatttacaaa gtcttagagt
                                                                        420
agaaqcattt ttatectgge tagggattet etaagagaac cagtageace aagatgeact
                                                                        480
ggaacagtgc aacgagagag ttcatgcctt agggtttaga agcatacaag caaagggaat
                                                                        540
ggtgcccact tcttactaga aaaatttcac aggctggagt ctgggcggag gagcctggga
                                                                        600
tgacagtaga agtgtgcagg aagcactaag tctagcctgt acctgcccgg gcggccgctc
                                                                        660
                                                                        720
gaaaggegaa ttetgeagat atneateaca etggeeggee gntegageat geatntagag
                                                                        780
ggcccaattc gcctatagtg ancgtattac aattcactgg ccgcgtttta caacgtnnng
                                                                        783
cnn
      <210> 166
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(775)
```

```
\langle 223 \rangle n = A,T,C or G
```

```
<400> 166
attgggcctc tnnagcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc
                                                                        60
cettegageg geogeologig caggitacagg ctagaettag tgetteetge acaettetae
                                                                        120
tgtcatccca ggctcctccg cccagactcc agcctgtgaa atttttctag taagaaqtqq
                                                                        180
gcaccattcc ctttgcttgt atgcttctaa accctaaggc atgaactctc tcgttgcact
                                                                        240
gttccagtgc atcttggtgc tactggttct cttagagaat ccctagccag gataaaaatg
                                                                        300
cttctactct aagactttgt aaatttcagt tttccattta ataaagccta ttggaaaqtt
                                                                       360
aaaagttaaa tatgaagcac aaactcattc acttaaattt tattcaacaa ttgicttiag
                                                                        420
aattttagga agtttttta tttacctatt tctctcaacc gtaaagtttt cattaaaatt
                                                                        480
ttggagcaac agggaaaatt aaattctgct atactcatga taattattca tccttcaqqa
                                                                        540
ttgttttaga agctaaaaca gataaagcat aaatgttcta aaaagatttt gcccgttgtt
                                                                        600
attettattt teetaetgna eeteggeege gaecaegeta agggegaatt eeageacaet
                                                                        660
ggcggccgtt actagtggat ccgagctcgg taccaanctt ggcgtaatca tggtcatagc
                                                                       720
tggttcctgt gtgaaantgt atccgntcac aattcacaca acatacganc cggag
                                                                        775
      <210> 167
      <211> 797
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (797)
      <223> n = A, T, C or G
      <400> 167
ttgnaacnat tntgacctga ttacgccaac ttggtaccga gctcggatcc actagtaacg
                                                                        60
gccgccagtg tgctggaatt cgcccttagc gtggtcgcgg ccgaggtact ttcagaaggt
                                                                       120
aaatcagtag atcacccatg tgtatctgca ccttctcaac tgagagaaga accacagttg
                                                                       180
asacctgett ttateatttt caagatggtt atttgtagaa ggegaggaac caattatget
                                                                       240
tgtattcata agtattactc taaatgtttt gtttttgtaa ttctgactaa gaccttttaa
                                                                       300
ccatggttag ttgctagtac ccttccttgt ccgaaqqaqc tqaccaqtat tqatqaqaqa
                                                                       360
gtccaggcag ctcctgaagt tcagctggta gtttgttctc tgaacatttg gtctcttgaa
                                                                       420
ggcacagtat atctggggct tcttccttta cccaatctaa tcctttcttc ttaatccagg
                                                                       480
ctcgaagccc atnoacattc caagagcaga tettgagtgt ggcaggtttg ccactgggtg
                                                                       540
aggttttctg atctgggggg tcctcataca gggctggggc cctntcctgc tgcctctttg
                                                                       600
tcattttett tgegggeegt ettactette ttggeetetg gettetgtee tgageteate
                                                                       660
congetette ggocacongt toccettett tacangente oggoattee ogttacogaa
                                                                       720
egecettigg geagetgiae etgeceengg eggeegiteg aaaaggeena attettgeag
                                                                       780
aatttccatc ncaccnn
                                                                       797
      <210> 168
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(780)
      <223> n = A, T, C or G
      <400> 168
acantatgac ctgatacgcc aacttggtac cgactcggat ccactagtaa cggccgccag
                                                                        60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta ctccggtcgg tgtcagcagc
                                                                       120
acgoggoatt gaacattgca atgtggagco caaaccacag aaaatggggt gaaattggco
                                                                       180
aactttctat taacttatgt tggcaatttt gccaccaaca gtaagctggc ccttctaata
                                                                       240
aaagaaaatt gaaaggtttc tcactaaacg gaattaagta gtggagtcaa gagactccca
                                                                       300
ggcctcagcg tacctgcccg ggcggccgct cgaaagggcg aattctgcag atatccatca
                                                                       360
cactggcggc cgctcgagca tgcatctaga gggcccaatt cgccctatag tgagtcgtat
                                                                       420
tacaattcac tggccgtcgt tttacaacgt cgtgactggg aaaaccctgg cgttacccaa
                                                                       480
```

```
cttaatcgcc ttgcagcaca tccccctttc gccagctggc gtaatagcga agaggcccgc
                                                                        540
                                                                        600
accgategee etteccaaca gttgegeage etgaatggeg aatggaegeg eeetgtaaeg
gcgcattaag cgcggcgggt gtggtggtta cgcgcagcgt gacccgtaca cttgccagcg
                                                                        660
                                                                        720
coctanegee egetnettte getttettee etttetttet tngcaegtte geeggetttt
cccgtcaage tetaaategg gggeteettt tanggtteeg atttantget ttaengnaen
                                                                        780
      <210> 169
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(771)
      \langle 223 \rangle n = A,T,C or G
      <400> 169
gggcenetng ageatgeteg aeggeegeea tgtgatggat atetgeagaa ttegeeettt
                                                                         60
                                                                        120
cgagcggccg cccgggcagg tacgctgagg cctgggagtc tcttgactcc actacttaat
toogtttagt gagaaacctt toaattttot tttattagaa gggccagctt actgttggtg
                                                                        180
                                                                        240
gcaaaattgc caacataagt taatagaaag ttggccaatt tcaccccatt ttctgtggtt
tgggctccac attgcaatgt tcaatgccgc gtgctgctga caccgaccgg agtacctcgg
                                                                        300
                                                                        360
ccgcgaccac gctaagggcg aattccagca cactggcggc cgttactagt ggatccgagc
toggtaccaa gottggogta atcatggtoa tagotgttto otgtgtgaaa ttgttatoog
                                                                        420
                                                                        480
ctcacaattc cacacaacat acgageegga agcataaagt gtaaageetg gggtgeetaa
tgagtgaget aactcacatt aattgegttg egeteactge eegettteea gtegggaaac
                                                                        540
ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg ggagaggcgg tttgcgtatt
                                                                        600
gggcgctctt ccgcttnctc gctcactgac tcgctgcgct cggtcgttcn gctgcggcga
                                                                        660
geggtateaa getacteaaa ggengtaata eegntateea cagaateagg ggataaegea
                                                                        720
ggaaagaaca ttgtgagcaa aaggcancaa aagggcagga accgtaaaaa n
                                                                        771
      <210> 170
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (777)
      \langle 223 \rangle n = A,T,C or G
      <400> 170
acacttgace tgatacgeca acttggtace gageteggae cactagtaae ggeegecagt
                                                                         60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac acagaatagc tgagcagttc
                                                                        120
acttcaggga tcaggtcatc tctgctcctc ctagtttcac catgttctgg caataaaaaa
                                                                        180
cacatattat atcctggttt tctctatcct tgcattacta aggtgactgt ctctctttat
                                                                        240
acatecttgt atggttetee cagtattage aagattgtat atetgtaaag aatgtecagt
                                                                        300
tttgtaaata tttccctgcc tttttttttc tttttttaca tctgatttta atgcttcgtt
                                                                        360
aacttcaaaa ggaactggta gagttcagaa ggtgagctgt tgtttttcta aacctcttcc
                                                                        420
caggaagggg acattgacac ttgaattttt gtcacctttt tcctcattag aaggaaagta
                                                                        480
gaaagcctta ctgtaggatt tttaaaaaaa aatccatctc accccatatt ggtcttaaat
                                                                        540
                                                                        600
aagtatagac taattaacct aagctacctt taacaacgta gaatttagat gggttcatat
atgtgagaaa aacctgaata taggacaggg gtcctacttt tttccccacc tctgtcgccc
                                                                        660
                                                                        720
aggetagagt atagtggtgt gatettggcc cactgnaacc tetgetteet anggteaagt
gattetteet geeteacett ccaagtaget gggattggaa gaatatgeen eeeeeg
                                                                        777
       <210> 171
       <211> 782
       <212> DNA
       <213> Homo Sapien
       <220>
```

<221> misc_feature

```
<222> (1) ... (782)
      <223> n = A, T, C or G
nngggcccnt agagcatgct cgacggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                        60
tttcgagcgg ccgcccgggc aggtactttt ttttttttt tttttttt tttaattaat
                                                                       120
                                                                       180
tagaaagtag gctgggcacg gtggctcatg cctataatcc cagcacttgg ggaggccgag
gateteetet etggtggate aettgaggge aggagttaag agaceateet ggecaacatg
                                                                       240
atgaaaccct gtctctacta aaaatacaaa aagtagctgg gcgtggtggc atactcttac
                                                                       300
aatcccagct acttgggagg ctgaggcagg agaatcactt gaacctagga agcagaggtt
                                                                       360
gcagtgggcc aagatcacac cactatactc tagcctgggc gacagaggtg gggaaaaaag
                                                                        420
taggacccct gtcctatatt caggtttttc tcacatatat gaacccatct aaattctacg
                                                                        480
                                                                        540
ttgttaaagg tagcttaggt taattagtct atacttattt aagaccaata tggggtgaga
tggatttttt tttaaaaatc ctacagtaag gctttctact ttccttctaa tgaggaaaaa
                                                                        600
ggtgacaaaa attcaagtgt caatgtcccc ttcctgggaa gaggtttaga aaaacaacag
                                                                        660
ctcaccttct gaactctacc agttcctttt tgaaagttaa ccgaagcatt aaaatcagat
                                                                        720
gttaaaaaag aaaaaaaaa ggcngggaaa atatttacaa aactgggaca ttctttacag
                                                                        780
                                                                        782
      <210> 172
      <211> 773
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(773)
      <223> n = A, T, C or G
      <400> 172
canttgacct gatacgccaa cttggtaccg actcggacca ctagtaacgg ccgccagtgt
                                                                         60
                                                                        120
getggaatte gecetttega geggeegeee gggeaggtae cateetgtgg eteettaagg
aggettetet etttaattet eeatgaggea teeagggtgg tetgggetat gggaagaace
                                                                        180
cttcaacttg ggagtagaca ggtgctccaa ttcatagtgc ccattctcag aggccttgtg
                                                                        240
tgtgagtttc tccttcatgc cttccttctg gctcttcttg tgctccataa tctgctggag
                                                                        300
                                                                        360
ctggtgccca gcatagtctg gcttggtggt cagcgggcca gccggcacag ctacaccaag
gacatetgae accatgtagg ggegeageea geeeaccaag ggagtgette eggggetgta
                                                                        420
gtgggtctgt ttgtggtaga agagaagtcc atctacctca aaagggaaat ccatagatag
                                                                        480
cacatcacac aggetttegg gagtgeaagg gaagttettt ageeccacaa atttaaaagg
                                                                        540
                                                                        600
attaagettg gttttetete ecagteette ttettetggt aaetttgaat geatecagta
gaatcggaaa tcaagtctgg caatcataaa aagggtgtcc ccgccagcac atcacattca
                                                                        660
                                                                        720
gaacgtagta ggtctggttt acctcattgt aaatgcaatc tagaatggtg taagcttttg
                                                                        773
ctgntgaagt ttccctgtgc ctctggcaga atgaagaaan ctgttgacac aac
      <210> 173
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(772)
      \langle 223 \rangle n = A,T,C or G
ntgggcctct nnagctgctc gacggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                         60
agegtggteg eggeegaggt acagtteett ggageagagt gagegeegee ggaggttaet
                                                                        120
ggaactgcag aaatccaagc ggctggatta tgtgaaccat gccagaagac tggctgaaga
                                                                        180
tgactggaca gggatggaga gtgaggaaga aaaataagaa agatgatgaa gaaatggaca
                                                                        240
ttgacactgt caagaagtta ccaaaacact atgctaatca attgatgctt tctgagtggt
                                                                        300
taattgacgt teetteagat ttggggeagg aatggattgt ggtegtgtge eetgttggaa
                                                                        360
```

```
aaagagccct tatcgtggcc tccaggggtt ctaccagtgc ctacaccaag agtggctact
                                                                          420
gtgtcaacag gttttcttca cttctgccag gaggcaacag gcgaaactca acagcaaaag
                                                                          480
actacaccat totagattgc atttacaatg aggtaaacca gacctactac gttctggatg
                                                                         540
tgatgtgctg gcggggacac cctttttatg attgccagac tgatttccga ttctactgga
                                                                          600
tgcattcaaa gttaccagaa gaagaaggac tgggagagaa aaccaagctt aatcctttta
                                                                          660
aatttgtggg gctaaagaac ttcccttgca ctcccgaaag cctgtgtgat gtgctatcta
                                                                          720
                                                                          772
togatttect tttgaggtag atggacttet ettetaceae aaacagacee ac
      <210> 174
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      \langle 223 \rangle n = A,T,C or G
      <400> 174
                                                                          60
acactatgac ctgatacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                         120
aqtqtqctqq aattcqccct tagcqtqqtc gcgqccqagq tacaaaaata catttttcca
                                                                         180
catacaaaag agagaaaaaa acaaagacat gtggcgggtg gcgaggggag gcccaatccc
aacaccctac aaggttccat ggaatggaga aggaacaaaa aaatccccaa ttattttggg
                                                                         240
gtaagatgtg ccccagaaaa ggtgaaatct atgcaataaa acccaggttt tcttcaaatc
                                                                         300
tagcatctag gatttctatc agagtttcaa ataatcagaa tttctatcag aatttctacc
                                                                         360
ctgaggtgac acctactaac tgtaggttct ttcattaaaa atgaagacat ctttcaccag
                                                                         420
aatgtatcaa gctataaaac tggcttcaga gcctacactt agccagagtg gaaaaaaaaat
                                                                         480
agtgcatatt ttcgacagca attttgaatt gatgcttgag gtctcaatcc accagcaccc
                                                                         540
agatatcatg ttacctccct cagttgaata caagttaaaa tgatgatctt atcgagatct
                                                                         600
                                                                          660
caatagagca cagtgccctt catgtttcgg gtaagaaggt gggaggagga atgaagccgg
gtattacacc cageccaatq acaqettaaq cettaacatg enggeatett acaatgacca
                                                                          720
taaacaaggg angggccaag canggctngc gatcattact ttgcgcacag aatgccatgt
                                                                          780
      <210> 175
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (771)
      <223> n = A, T, C or G
      <400> 175
gggcctctag agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                          60
tegageggee geegggeagg tactaaaaca getttgetta tgttggeeag gggaaaacat
                                                                         120
ggcattctgt gcgcaaagct aatgatcgcc agccctgcct tggcccctcc cttgtttatg
                                                                          180
gtcattgtaa gatgcccgca tgttaaggct taagetgtca ctgggctggg tgtaataccc
                                                                          240
getteattee teeteecace etettaceeg aaacatgaag ggcaetgtge tetattgaga tetegataag ateateattt taacttgtat teaactgagg gaggtaacat gatatetggg
                                                                          300
                                                                         360
tgctggtgga ttgagacete aagcatcaat tcaaaattgc tgtcgaaaat atgcactatt
                                                                          420
                                                                         480
ttttttccac tctggctaag tgtaggctct gaagccagtt ttatagcttg atacattctg
gtgaaagatg tottcatttt taatgaaaga acctacagtt agtaggtgtc acctcagggt
                                                                          540
agaaattctg atagaaattc tgattatttg aaactctgat agaaatccta gatgctagat
                                                                          600
ttgaagaaaa cctgggtttt attgcataga tttcaccttt tctggggcac atcttacccc
                                                                          660
aaaataattg gggatttttt tgntccttct ccattccatg gaaccttgta gggtgtttgg
                                                                          720
gattgggcct tccctngcca cccgccacat gtctttggtt ttttctctct t
                                                                          771
      <210> 176
      <211> 773
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1) ... (773)
      \langle 223 \rangle n = A,T,C or G
      <400> 176
atngggeete tagageatge tegageggee gecatgtgat ggatatetge agaattegee
                                                                       60
cttagcgtgg tcgcggccga ggtactcatg tattttttt tttttccaga tctctttccc
                                                                      120
caagttgcta ttgtaagagt attctgctgc gtgtggatgc agttatacac attaaagcag
                                                                      180
atctggagtc tgaagtagct ataaagcagc tataaaacag aaatacatgc atagctgcag
                                                                      240
300
ttggttttac agagaagaga tttttattac aaagaaaaaa attccagtga attgtgcaga
                                                                      360
aatgctggtt tttacaccat cctaaagaaa aactttacaa gggtgttttg gagtagaaaa
                                                                      420
aaggttataa agttggaatc ttaaattgta aaattaacca ttgagtgtca aagttctaaa
                                                                      480
agcagaactc attttgtgca atgaacataa ggaaagacta ctgtataggt ttttttttc
                                                                      540
teettetaaa tgaagaaaag etttgettaa gggttgeata ettttattgg agtaaatetg
                                                                      600
aatgatocta eteetttgga gtaaaactag tgettaccag tttecaattg tatttagett
                                                                      660
ctqqttqqaa tttgaaaaaa aaagaaaaaa agaaaaagaa aacctaaata aaataggtga
                                                                      720
aagttocotg actattoagg tgaataonca aaaanaaaan nnnnnnaann nnt
                                                                      773
      <210> 177
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (772)
      \langle 223 \rangle n = A,T,C or G
      <400> 177
acattngacc tgatacgcca gcttggtacc gagctcggat ccactagtaa cggccgccag
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta cagtaggaaa ataagaataa
                                                                      120
caacgggcaa aatcttttta gaacatttat gctttatctg ttttagcttc taaaacaatc
                                                                      180
ctgaaggatg aataattatc atgagtatag cagaatttaa ttttccctgt tgctccaaaa
                                                                      240
ttttaatgaa aactttacgg ttgagagaaa taggtaaata aaaaaacttc ctaaaattct
                                                                      300
                                                                      360
aaagacaatt gttgaataaa atttaagtga atgagtttgt gcttcatatt taacttttaa
ctttccaata ggctttatta aatggaaaac tgaaatttac aaagtcttag agtagaagca
                                                                      420
tttttatcct ggctagggat tctctaagag aaccagtagc accaagatgc actggaacag
                                                                      480
tgcaacgaga gagttcatgc cttanggttt agaagcatac aagcaaaggg aatggtgccc
                                                                      540
                                                                      600
acttettaet agaaaaattt cacaggetgg agtetgggeg gaggageetg ggatgacagt
aqaaqtqtqc aqqaaqcact aaqtctaqcc tqtacctgcc cqqqcqqncq ctcgaaqgqc
                                                                      660
                                                                      720
gaattetgea gatateeate acaetggegg eegetegage atgetetana gggeecaatt
cgccctatag tgagtcggat tacanttnaa tggccgncgt tttacaacgt cc
                                                                      772
      <210> 178
      <211> 770
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (770)
      \langle 223 \rangle n = A,T,C or G
      <400> 178
attgggcccc tnnagcatgc tegngeggcc gccagtgtga tggatatctg cagaattegc
cettegageg geogeologig caggiacagg ctagacttag tgetteetge acaettetae
                                                                      120
tgtcatccca ggctcctccg cccagactcc agcctgtgaa atttttctag taagaagtgg
                                                                      180
geaccattee ettigetigt atgettetaa accetaagge atgaactete tegitgeact
                                                                      240
gttccagtgc atcttggtgc tactggttct cttagagaat ccctagccag gataaaaatg
                                                                      300
```

```
360
cttctactct aagactttgt aaatttcagt tttccattta ataaagccta ttggaaagtt
aaaagttaaa tatgaagcac aaactcattc acttaaattt tattcaacaa ttgtctttag
                                                                       420
aattttagga agtttttta tttacctatt tctctcaacc gtaaagtttt cattaaaatt
                                                                        480
                                                                       540
ttggagcaac agggaaaatt aaattctgct atactcatga taattattca tccttcanga
                                                                       600
ttgttttaga agctaaaaca gataaagcat aaatgttcta aaaagatttt gcccgttggt
attettattt teetaetgta eeteggeegn gaccaegeta agggegaatt eeageacaet
                                                                       660
qqcqqccqnt actaqtqqat ccqaqctcqq tacccaanct tggcgtaatc atggncatag
                                                                       720
ctgttcctgn gngaaatngn natncgntna caattnccac acatacnann
                                                                       770
      <210> 179
      <211> 502
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(502)
      <223> n = A,T,C or G
      <400> 179
cnnnttgacn tgattcgcca acttggtacc gagctcggat ccctagtaac ggccgccagt
                                                                        60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac ctggccccca acttctcgaa
                                                                        120
taaaatgaaa ctatgattot tggcctcact cactaccatg tgacattgat caaatcactt
                                                                        180
cacctctcca aacctcagag tetttatetg taagatggaa aaagtaacac etacttcagg
                                                                       240
ggctgtcatg aggattaaat aaatgtgccc agcaggtagt aagtatacaa.cacaaagcat
                                                                        300
ctaatggttc attcatacat ttgcttattt tgcaattatt ggccacctgc caatgttggg
                                                                       360
cactgttcta ggcacagggg atacagcaag ggcaaacacc taactactgg tggagggaag
                                                                        420
acgataaaca aatacgtaaa gatttgtgcc aggtagtgat aaaagcaaag aatgactcat
                                                                        480
                                                                        502
ggagaggtc agctggggag ac
      <210> 180
      <211> 823
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (823)
      \langle 223 \rangle n = A,T,C or G
      <400> 180
gggccttnna gcatgctcga cggccgccat gtgatggata tctgcagaat tcgccctttc
                                                                        60
gageggeege eegggeaggt actgegtggt etececaget gaccetetee atgagteatt
                                                                        120
ctttgctttt atcactacct ggcacaaatc tttacgtatt tgtttatcgt cttccctcca
                                                                        180
ccagtagtta ggtgtttgcc cttgctgtat cccctgtgcc tagaacagtg cccaacattg
                                                                        240
gcaggtggcc aataattgca aaataagcaa atgtatgaat gaaccattag atgctttgtg
                                                                        300
ttgtatactt actacctgct gggcacattt atttaatcct catgacagcc cctgaagtag
                                                                       360
gtqttacttt ttccatctta caqataaaqa ctctgaggtt tggagaggtg aagtgatttg
                                                                        420
atcaatgtca catggtagtg agtgaggcca agaatcatag tttcatttta ttcgagaagt
                                                                        480
tgggggccag gtacctcggc cgcgaccacg ctaagggcga attccagcac actggcggcc
                                                                        540
gttactagtg gatccgagct cggtaccaag cttggcgtaa tcatggtcat agctgtttcc
                                                                        600
tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa gcataaagtg
                                                                        660
taaagcctgg ggtgcctaat gagtgagcta actcacatta attgcgttgc gctcactgcc
                                                                        720
cgcttttcag tcgggaaacc tgtcgtgcca gctgcattaa tgaatcggcc aacgcgccgg
                                                                        780
gaaaagengn ttgegtattg gggegetett negetttett gen
                                                                        823
      <210> 181
      <211> 501
      <212> DNA
      <213> Homo Sapien
      <220>
```

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```
<221> misc_feature
      <222> (1) ... (501)
      \langle 223 \rangle n = A,T,C or G
      <400> 181
cantatgach tgattcgcca acttggtacc ngctcggatc cctagtaacg ghcgccattg
                                                                         60
tnctggaatn cgnccttagc gtggtcgcgg ccgaggtact ttcttcnttt nctnnaattt
                                                                        120
tecataacet agtgeengnt tgatneete acatggntgg tteacatnen engtacagan
                                                                        180
geneggneac catggganag ggeageacte ntneettetn angggatett ggeetaangg
                                                                        240
tgtacnaagg gagangatgg antntettet gneeteneta nggeetaggg aacceagnag
                                                                        300
canateceae nacheetten athtttnage caaggagaag eceettggtg aenttnagtt
                                                                        360
ccaaccatta tacncagtgn gagaatggat nntcctggtc ccaaccatta cagggtgaag
                                                                        420
atatnaacag ttaaggaaga tacagtttng atgaggcctc anganggagc agntnacacc
                                                                        480
atcatannca tatgcaggga a
                                                                        501
      <210> 182
      <211> 830
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(830)
      <223> n = A,T,C or G
      <400> 182
ggcccttnga ngcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                         60
cgagcggccg cccgggcagg tacacgagaa gctccgagga tggctgaagt ccaacgtctc
                                                                        120
tgatgcggtg gctcagagca cccgtatcat ttatggaggc tctgtgactg gggcaacctg
                                                                        180
caaggagetg gccagccage etgatgtgga tggetteett gtgggtggtg etteeetcaa
                                                                        240
gcccgaattc gtggacatca tcaatgccaa acaatgagcc ccatccatct tccctaccct
                                                                        300
tectgecaag ecagggacta ageageecag aageceagta actgecettt ecetgeatat
                                                                        360
gettetgatg gtgteatetg etectteetg tggeeteate caaactgtat ettectttae
                                                                        420
                                                                        480
tgtttatate tteacectgt aatggttggg accaggecaa tecettetee acttactata
atggttggaa ctaaacgtca ccaaggtggc ttctccttgg ctgagagatg gaaggcgtgg
                                                                        540
tgggatttgc tcctgggttc cctaggccct agtgagggca gaagagaaac catcctctcc
                                                                        600
cttcttacac cgtgaggcca agateccete agaangcang agtgettgee etteccatgg
                                                                        660
                                                                        720
tgcccgtgcc tcttgtgctg ngtatgtgaa ccaccccatg tgagggaata aacctggcac
tangtetttg aaaaaaanaa aaacntnaaa aaaanteeet teggeegnga ccaegetaag
                                                                        780
gnccaattcc ancacaatgg gcgnncgtna ctantggatc caaccttnct
                                                                        830
      <210> 183
      <211> 484
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(484)
      \langle 223 \rangle n = A,T,C or G
      <400> 183
ttgacatgat acccaacttg taccgagete ggatecacta gtaacggeeg ccagtgtgct
                                                                         60
ggaattcgcc ctttcnagcg gccgcccggg caggtacccc agcccgcccc actgagtttg
                                                                        120
cettetatee gggatateeg ggaacetace ageetatgge cagttacetg gacgtgtetg
                                                                        180
tggtgcagac tctgggtgct cctggagaac cgcgacatga ctccctgttg cctgtgggca
                                                                        240
gttaccagte ttgggetete getggtgget ggaacageea gatgtgttge cagggagaac
                                                                        300
agaacccacc angtecettt ttggaaggea geatttgeag aetteaaegg geaaaaccte
                                                                        360
tgacgcctgc gcctttcgtc gcggncgcag aaaccatttc gnactttaan attgaatctt
                                                                        420
ctctaaggtt ganaattict ggatcccttg anaactttta canntgnnct ttantccntt
                                                                        480
```

```
<210> 184
      <211> 824
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (824)
      <223> n = A,T,C or G
      <400> 184
ggccttagag ctgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg
                                                                        60
tggtcgcggc cgaggtacca gattggccac tctagggtag aacaccaggt agattcctaa
                                                                       120
ggtteetgae tecaggeeet ggeteecagt tggeatetet ggaeetaett ggggteacag
                                                                       180
tgaactcact gccctgaagg gaagatgcct ggctggatat gccacctgct gattggagag
                                                                       240
teettggace ttgagtgaac acaggtggta gecaggcagt gatcatcata ggeettgggt
                                                                       300
                                                                       360
gagececagt getgtttgg etteaggtet gaeacagage tgteecagtg gtagtegeca
caggggtgct tgtgtcatca tcccttctcc agctccaggc agctcagcac agagacatag
                                                                       420
tgtccatttg tttgagtgaa agtaaaagaa gagaacaaga gtctccacct agtaatccag
                                                                       480
qqaattctcc caqatcttac ccaagacaac caaggcaaga gacacagcat tactqqqctq
                                                                       540
gaggtgccc ctaatgcagg tatggctgca gtgaacaaag acttagatca caacaccaa
                                                                       600
atcocttota ataqttggaa agcottnoca agaaggatgo oggacaaaca agcocaaact
                                                                       660
gtgaagacta caacaaatac ctaactcttt caatgcccag acactgaaga atatcccaaa
                                                                       720
ctttaagacc atccatgaaa acatgacctt accaacaagc taaataagac accagtgacc
                                                                       780
                                                                       824
aatcccagag agatagagat atgtgtcctt tcnnacagag aatt
      <210> 185
      <211> 499
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (499)
      <223> n = A, T, C or G
      <400> 185
cacttgacnt gatacgccaa cttgtaccga ctcggatcca ctagtaacgg ccgccagtgt
                                                                        60
getggaatte gecettageg tggtegegge egaggtaett titettitt nitntattit
                                                                       120
tttttttcgt ctccccaaag ctttatctgt cttgactttt taaaaaagtt tgggggcaga
                                                                       180
ttctgaattg gctaaaagac atgcattttt aaaactagca actcttattt ctttccttta
                                                                       240
aaaatacata gcattaaatc ccaaatccta tttaaagccc tgacagcttg agaaggtcac
                                                                       300
tactgcattt ataggacctt ctggtggttc tgctgttacg tttgaagtct gacaatcctt
                                                                       360
gagaatettt geatgeagag gaggtaagag gtattggatt tteacagagg aagaacacag
                                                                       420
ccgcanaatg aagggccagg cttactgagc tgccaatgga gggctcatgg gtgggacatg
                                                                       480
gnaaagaagg cacctagcc
                                                                       499
      <210> 186
      <211> 504
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(504)
      <223> n = A, T, C or G
      <400> 186
cacttgacnt gatacgccaa cttggtaccg agctcggatc cctagtaacg gccgccagtg
                                                                        60
tgctggaatt cgcccttagc gtggtcgcgg ccgaggtacc tcaggaggtc tgcaagtgtg
                                                                       120
tggttaggta aaaactganc tgtgcaaact cactgtatcc aagctcttct catgagagag
                                                                       180
                                                                       240
cggaacaacc tggcaagctt aaaggcaagt gttttcgttc ttttaattaa ataggctgtg
```

```
acaaaattaa caataaaact agcccagaac caaccagccc ggtaagtgtc gtgcaaatct
                                                                        300
tgcagtaaca aaagaccatc tgagagacta cacgttggtc tccagtccta gcaagcgtcc
                                                                        360
                                                                        420
cattetetne acattettat caattetage ttgacatgtt atctcettgg cacattecat
                                                                        480
aggaaaccag cetettetn catetegtag tegntecece ttataccage categetgae
                                                                        504
acgtttgata gatgaagacg acgt
      <210> 187
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(822)
      \langle 223 \rangle n = A,T,C or G
      <400> 187
gggcctctna gctgctcgnc ggccgccatg tgatggatat ctgcagaatt cgccctttcg
                                                                         60
ageggeegee egggeaggta egeggggaet gggtttttet cettttgtag eetttteett
                                                                        120
tagtotocto ttocoggtgg ttggtaaaaa gaggtgaatt gacagcotat gttgaagaca
                                                                        180
ctgtgctttt ctcaagaagg acatccaaac agcaagtcta cttctttctc tttaacgatg
                                                                        240
                                                                        300
tgctcattat caccaagaag aagagtgaag aaagttacaa cgtcaatgat tattccttaa
gagatcaget attggtggaa tettgtgaca atgaagaget taattettet ecagggaaga
                                                                        360
acagetecae aatgetetat teaagacaga getetgeeag teaectettt aetetgaeag
                                                                        420
tccttagtaa ccacgcgaat gagaaagtgg agatgctact aggagctgag acgcagagcg
                                                                        480
                                                                        540
agegageeeg etggataaet geeetgggae acageagegg gaageegeet geagaeegaa
                                                                        600
cctcactgac ccaggtggaa atcgttaggt catttactgc taagcagcca gatgaactct
                                                                        660
ccctgcaggt ggctgacgtc gtcctcatct atcaacgtgt cagcgatggc tggtatgagg
gggaacgact acgagatgga gaaagaagct ggtttcctat ggaatgtgcc aaggagataa
                                                                        720
                                                                        780
catgicaage tacaattgat aagaatgigg agagaatgigg accitigctag gactggagae
                                                                        822
caacgtgtag tctctcaaan gncttttggt actgcaagat tg
      <210> 188
      <211> 504
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(504)
      \langle 223 \rangle n = A,T,C or G
      <400> 188
tatgancatg atacgccaac ttggtaccga gctcggatcc actagtaacg gcccgccagt
                                                                         60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac caaaaaagta aacattgata
                                                                        120
                                                                        180
atatggcctg acaacaatca gatatgctaa gctctagaag caaaagcaag gtaggattgc
ctccaaatgt tgacaggtat tagccatacc acagtaacta gatctaatgt gagggctaaa
                                                                        240
tgcctggaga ggcagaaccc taaaggatgc ttagttatag ctccatgctg ccgccgagtg
                                                                        300
gettgatget ccattacace etecttggat ccaacettee attaaggetg aaggetetag
                                                                        360
agggcagagt attcaagatg ttagatctgg tccaagccca aattctagag ttaaaagcag
                                                                        420
aggggttett agtggetgaa aaaaaacaaa acctgatgae atttgggaet ccagttttga
                                                                        480
ggaaaggctc tgatgatgag gctt
                                                                        504
      <210> 189
      <211> 842
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (842)
      <223> n = A, T, C or G
```

```
<400> 189
                                                                      60
nnnnnnntt tttgaaccgg ccctntnang catgctcgac ggccgccatg tgatggatat
ctgcagaatt cgccctttcg agcggccgcc cgggcaggta cccttctcgc ttttgccatt
                                                                     120
agccaaggat agaagctgca gtggtattaa ttttgatata atctttcaaa ccagcttcat
                                                                     180
gtggcttccc ttttctttgt tcaagatgag ggccaggagg ggaaacatca cacctgccct
aaaccetgtt cetggaggte agcatttgat etgttgcaag cecetette tgteceetet
                                                                     300
toctaccetg ceteceatga etttgeteet caeaettttg gaaceatgee tteegggggg
                                                                     360
goccatotot totggoogto ottgtototg ggocacttgg agtgtgtgat aaatcagtca
                                                                     420
agctgttgaa gtctcaggag tctctggtag cctgcagaag taagcctcat catcagagcc
                                                                     480
tttcctcaaa actggagtcc caaatgtcat caggttttgt tttttttcag ccactaagaa
                                                                     540
cccctctgct tttaactcta gaatttgggc ttggaccaga tctaacatct tgaatactct
                                                                     600
                                                                     660
gccctctaga gccttcagcc ttaatggaag gttggatcca aggagggtgt aatggagcat
caagccactc ggcggcagca tggagctata actaagcatc ctttagggtt ctgcctctcc
                                                                     720
aggeatttag cocctacatt agatetagtt actgtggtat ggctaatacc tgtcaacatt
                                                                     780
                                                                     840
tggaggcaat cctaccttgc ttttgcttct agagcttagc atatctgatg gttgcaggcc
                                                                     842
cg
      <210> 190
      <211> 503
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (503)
      <223> n = A,T,C or G
      <400> 190
actatgacct gattacgcca agettggtac cgagetegga tecetagtaa eggeegeeag
                                                                      60
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg taccatgctg acttcttggt
                                                                     120
                                                                     180
atcttttaaq qcctaatttt cccttccttg agattactgt agtgtgttcc agctaatttc
tatttggaaa cgagttggaa cagctgaaaa ctaggtatta ttgaaggcaa agcagcctca
                                                                     240
cgtcagtttt ttatcagctc atttgggaag ttttttttt tttttttaa ttaattagaa
                                                                     300
agtaggetgg acaeggtgge teatgeetat aateecagea ettggggagg eegaggatet
                                                                     360
                                                                     420
cetetetggt ggateaettg agggeaggag ttaagagace atcetggeea acatgatgaa
                                                                     480
accetytete tactaaaaat acaaaaagta netgggegtg gtggeatact ettacaatee
cagctacttg ggaggctgag gca
                                                                     503
      <210> 191
      <211> 829
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(829)
      \langle 223 \rangle n = A,T,C or G
      <400> 191
gggcctctga gcatgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                      60
cgtggtcgcg gccgaggtac ttttttttt tctttttta catctgattt taatgcttcg
                                                                     120
                                                                     180
ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc taaacctctt
cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt agaaggaaag
                                                                     240
tagaaageet taetgtagga tttttaaaaa aaaateeate teaceeeata ttggtettaa
                                                                     300
ataaqtataq actaattaac ctaagctacc tttaacaacg tagaatttag atgggttcat
                                                                     360
atatgtgaga aaaacctgaa tataggacag gggteetaet ttttteecca cetetgtege
                                                                     420
ccaggctaga gtatagtggt gtgatcttgg cccactgcaa cctctgcttc ctaggttcaa
                                                                     480
                                                                     540
gtgattctcc tgcctcagcc tcccaagtag ctgggattgt aagagtatgc caccacgccc
agctactttt tgtattttta gtagagacag ggtttcatca tgttggccag gatggtctct
                                                                     600
                                                                     660
taactcctgc cctcaagtga tccaccagag aggagatcct cggcctnccc aagtgctggg
720
```

```
aaactttcca aatgagctga taaaaaactg acgtgaggct gctttgcctt caataatacc
tagttttcag ctgtccaact cgtttccaaa tagaaattaa gctgggang
                                                                        829
      <210> 192
<211> 503
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(503)
      \langle 223 \rangle n = A,T,C or G
      <400> 192
ntatgaccat gattacgcca agettggtac eegagetegg atccactagt aacggeegee
                                                                         60
agtgtgetgg aattegeect ttegagegge egeeegggea ggtaetgeet ttgggettet
                                                                        120
tetetetet gtttteteet etegaattet ttactgtttt aatacattgt tettetgget
                                                                        180
gaggetggte aaagetacae tgatetteaa ataaaggete gteaatgeta caetgttett
                                                                        240
caagcaacgg ctggtgaact tgttctgaca aaggatggtc gacttttctt gcttgcttcc
                                                                        300
tatgtettte etetteaget aaatagagat gttteagatt atetgggtat egatetgtga
                                                                        360
attgagattc cagtgacgtt tgagccttct tttccttccg tagcaatttc ttgtaacttt
                                                                        420
gctgtatttt cagttttctt cgaaaagcaa agccttgtcc ctcgcgaacg ctccccacga
                                                                        480
                                                                        503
agcttgcggg tggttaggcc gca
      <210> 193
      <211> 834
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(834)
      <223> n = A,T,C or G
      <400> 193
ancegetete tagagetget egaeggeege catgtgatgg atatetgeag aattegeeet
                                                                         60
tagegtggte geggenegag gtacaattea ttatgtgttt cattaattae etttattaaa
                                                                        120
aacaacacaa ttatattaca atagggacaa aaaatgttta agcaaatgaa aacgaaacca
                                                                        180
tgacataccc aaactcagga ggaggcaaca aaggcagtgc taaagggaag cttacagctc
                                                                        240
cagatgotta aattaaaaag aagaaagato toaaacccat gotaaaggga agottacago
                                                                        300
tacagateet taaattaaaa agaagaaaga teteaaaeee atgetaaagg gaagettaca
                                                                        360
gctgcagatg cttaaattaa aaagaagaaa gatctgaaac ccttgctaaa gggaagctta
                                                                        420
tagetgeagg tgettaaatt aaaaagaaga aagateteaa ateaataaee taacattaca
                                                                        480
cctgaagggg gggaaaaaaa ctaatgacaa accaagcaaa aggaagaaaa taacagatta
                                                                        540
gagcagagat aagcagaata agaccagaaa aaaggaaaaa aacactgagt ttgtttttt
                                                                        600
aaagatcaat aaaaatttta aaactcacag ctatattaag aaaaaagaga aatctcaaat
                                                                        660
actaaaatca taagtaaaag angtgacagt acaggaataa gaatgtgaga cagaagacat
                                                                        720
ggcggcctac cacccgcaag ccttcgtggg gagcgttcgc ganggacaag gctttgcttt
                                                                        780
                                                                        834
tegaagaaaa etgaaaatne egeaaagtte eagaaattgt tengaagaaa agaa
      <210> 194
      <211> 502
      <212> DNA
      <213> Homo Sapien
      <400> 194
cacttgacet gattegecaa gettggtace gageteggát cectagtaae ggeegeeagt
                                                                         60
gtgctggaat tcgccctttc gagcggccgc ccgggcagga cgctgaggcc tgggagtctc
                                                                        120
ttgactccac tacttaattc cgtttagtga gaaacctttc aattttcttt tattagaagg
                                                                        180
gecagettae tgttggtgge aaaattgeea acataagtta atagaaagtt ggecaattte
                                                                        240
accecatttt ctgtggtttg ggetecacat tgcaatgtte aatgecaegt getgetgaca
                                                                        300
cegaceggag taceteggee gegaceaege taagggegaa ttetgeagat atecateaea
                                                                        360
```

```
ctggcggccg ctcgagcatg catctagagg gcccaattcg ccctatagtg agtcgtatta
caattcactg gccgtcgttt tacaacgtcg tgactgggaa aaccctggcg ttacccaact
                                                                      480
                                                                      502
taatcgcctt gcagcacatc cc
      <210> 195
      <211> 848
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (848)
      <223> n = A, T, C or G
      <400> 195
gnnnnnnntt tnnaatgggc ctctnnagca tgctcgagcg gccgccatgt gatggatatc
                                                                       60
tgcagaattc gcccttagcg tggtcgcggc cgaggtactc cggtcggtgt cagcagcacg
                                                                      120
                                                                      180
tggcattgaa cattgcaatg tggagcccaa accacagaaa atggggtgaa attggccaac
tttctattaa cttatgttgg caattttgcc accaacagta agctggccct tctaataaaa
                                                                      240
gaaaattgaa aggtttctca ctaaacggaa ttaagtagtg gagtcaagag actcccaggc
                                                                      300
ctcagegtec tgecegggeg geegetegaa agggegaatt ccageacaet ggeggeegtt
                                                                      360
                                                                      420
actagtggat ccgagctcgg taccaagctt ggcgtaatca tggtcatagc tgtttcctgt
gtgaaattgt tateegetea caatteeaca caacataega geeggaagea taaagtgtaa
                                                                      480
agcctggggt gcctaatgag tgagctaact cacattaatt gcgttgcgct cactgcccgc
                                                                      540
tttccagtcg ggaaacctgt cgtgccagct gcattaatga atcggccaac gcgcggggag
                                                                      600
                                                                      660
aggeggtttg cgtattggge getetteege tteetegete actgaetege tgegeteggt
cgttcggctg cggcgagcgg tatcagctca ctcaaaggcg gtaataccgg tattcacaga
                                                                      720
                                                                      780
attcagggga taacgcagga aagaacatgt gagcaaaagg ncagccaaag gccaggaacc
cgtnaaaagg ccgcgttgct ggcgttnttc cataggctcc gcccccttga cgagcatnac
                                                                      840
                                                                      848
aaaaatct
      <210> 196
      <211> 511
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(511)
      \langle 223 \rangle n = A,T,C or G
      <400> 196
canntatgac etgattacge caagettggt accgageteg gatecactag taacggccge
                                                                       60
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactttttt ttttttttt
                                                                      120
180
aaaaaagttt acaaaagaaa aaaagatnca gaaaaagaat aacttgcttc atatgtccca
                                                                      240
aaaagagaaa aaaataaagg ggacaatgcc aacatgctca acaataaagg cttctttttc
                                                                      300
                                                                      360
ttatttttt aatacaaaat ncaagcaaag gatacacata cttaaaacag agctcaggag
canacacgca ntcctggaaa cccttcaata aaancaaagc aggagtttgn tttttctttg
                                                                      420
                                                                      480
tctatqcana tacatacaqa qactqqqata tgtaaaaatt aagtatnaca aaagaccatt
                                                                      511
acacgattct accaatgcat gttgcatctn g
      <210> 197
      <211> 816
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (816)
      \langle 223 \rangle n = A,T,C or G
```

```
<400> 197
gggcctctag agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
cgagcggccg cccgggcagg tactaaggaa gttaaagttt gaatgtaacc actttattta
                                                                     120
                                                                     180
aaaggttttt ttotttaatt taaatgaaat ggggttgaag tgaacatgat tttgttgacc
atgitegtga attacagatg caacatgeat tggtagaate gtgtgatggt ettitgtgat
                                                                     240
acttaatttt tacatateee agtetetgta tgtatetgea tagacaaaga aaaaacaaac
                                                                     300
tcctgctttg cttttattga agggtttcca ggactgcgtg tctgctcctg agctctgttt
                                                                     360
                                                                     420
taagtatgtg tatcctttgc ttgtattttg tattaaaaaa ataagaaaaa gaagccttta
ttgttgagca tgttggcatt gtccccttta tttttttctc tttttgggac atatgaagca
                                                                     480
                                                                     540
agttattett titetgtate tittittett tigtaaaett tittitigtt tigtitaaaa
600
                                                                     660
gtcctcggcc gcgaccacgc taagggcgaa ttccagcaca ctggcggncg ttactagtgg
atccgagete ggaccaaget tggcgtaate atggneatag etgtteetgt gtgaaatgtt
                                                                     720
                                                                     780
atcogotoac aattoccaca catacaacco ggagcataaa gtgtaaacct ggggtgccta
                                                                     816
atgagtgagc tactcaataa ttgcgttgcg ctcang
      <210> 198
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (498)
      <223> n = A,T,C or G
tgattegeca agettggtae egagetegga tecaetagta aeggeeegee agtgtgetgg
                                                                      60
aattogooot togagoggno gnoogggcag gtacaattoa gagoaggtgt ccatagaaac
                                                                      120
aactaggntt gaaaaaactg taagacaatt cacagttgaa atcaaaccaa cactgtgaat
                                                                      180
gtgttaaata cttgccatat aacaacactt taacattgat cttgctaaat aaggctatga
                                                                      240
                                                                      300
ttcataagat gcatggattt ccaaagctgn ttaacattct tataaattaa ttcacaggat
                                                                      360
tcaaatagtt gctttttagc ttcaactggg tattagcaaa aatnatacaa aatgatcccc
gtgcaagcac aaatttacct teettetaaa taaaacatga cagattatat tacaacttga
                                                                      420
tagcototot titaaaaaagt otgtgacatt attaaagagg tgacggaatg ottgntitgo
                                                                      480
                                                                      498
aaaccccaac acatcttt
      <210> 199
      <211> 837
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (837)
      <223> n = A,T,C or G
      <400> 199
nnnnnnntnn cantgggeet ctagagetge tegaeggeeg ccatgtgatg gatatetgea
                                                                       60
gaattcgccc ttagcctggt cgcggccgag gtaccttgag atctgagcaa ctgtgttaat
                                                                      120
gaagtaatag caatggtcca cagtgaaaga tgtgttgggg tttgcaaaac aagcattccg
                                                                      180
tcacctcttt aataatgtca cagacttttt aaaagagagg ctatcaagtt gtaatataat
                                                                      240
                                                                      300
ctgtcatgtt ttatttagga aggaaggtaa atttgtgctt gcacggggat cattttgtat
tatttttgct aatacccagt tgaagctaaa aagcaactat ttgaatcctg tgaattaatt
                                                                      360
tataagaatg ttaaacagct ttggaaatac atgcatctta tgaatcatag ccttatttag
                                                                      420
caagatcaat gttaaagtgt tgttatatgg caagtattta acacattcac agtgtttgtt
                                                                      480
tgatttcaac tgtgaattgt cttacagttt tttcaaacct agttgtttct atggacacct
                                                                      540
getetgaatt gtacetgeee gggeggeege tegaagggeg aatteeagea caetggegge
                                                                      600
cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggtca tagctgnttc
                                                                      660
ctgtgtgaaa ttggtatccc gctcacaatt ccacacaaca tacgagccgg aagcataaag
                                                                      720
                                                                      780
tgtaaagcct ggggtgccta atgagtgagc taactccatt aattgcgttg cgctcactgg
cccgctttnc agtcnggaaa cctgtctgcc anctgcatta atgaatcggc caccccg
                                                                      837
```

```
<210> 200
      <211> 506
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(506)
      \langle 223 \rangle n = A,T,C or G
      <400> 200
                                                                         60
nnnnttgacc tgattacgcc aagettggta ccgagetcgg atccactagt aacggccgcc
agtgtgctgg aattegeect tagegtggte geggeegagg tactgcatee ataatttate
                                                                        120
                                                                        180
gccatgtgca acagetttgc gttttctaag gcacaatttt taatgaaatg atgtgtagat
ttcaatctaa taacagctca tccaaatgac aaatatggtc gaaatccctc cagtggctga
                                                                        240
ggaaatttct gcacctatat ggaacccaca tgcaaagaac ccatctagca tgtaataaat
                                                                        300
aatcqctaqc catactcaat aagacacgga aaaattattg cttacataac agaaaaacat
                                                                        360
ctacttgacc cccttttatg actacatcaa tctattagga gtgtatccat agtctacatt
                                                                        420
cacaaaatgt catcttgact tatttgccat tgatttaagg cagaataaat agtccccctt
                                                                        480
                                                                        506
tccccagtct taacaacaaa aaacaa
      <210> 201
      <211> 864
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(864)
      \langle 223 \rangle n = A,T,C or G
      <400> 201
conntanage atgetegacg geogeologic caggiacett ggaagttatg teattaatat
                                                                         60
                                                                        120
aggetggttc atcaaataaa gcaaaacett gcaatatcag ctagatttac actccgggac
gttgcccaaa ggtaggaaga aagcaggggg aaatatttca gtcatcattt ccaaagtcat
                                                                        180
tatcaaaatc tgtgaggaag tttaatcttc caaagagtca atgtcagaca tcaggcctct
                                                                        240
gttgcctgct tctctcgagg cactagatta ggagtcttca ataagagact taacatgagg
                                                                        300
tatatggaag atgaggcacc gagataagtt catcattagg tgtgagcact gctcaccett
                                                                        360
getggcaagt teteettaag ggeetgaage acaggtgtee aaagaaaage gttaagteea
                                                                        420
tottaataga atotatgtgg tatatgatgt ggtcagcccc tggtctgtga tcagcaagaa
                                                                        480
cetacageae agattatgee etgeceaett caatgaatae etacteteet neatteteea
                                                                        540
tcactttttt gctatcaaga ctccggacct tgcccatgga gaagtttaga gaggaactct
                                                                        600
                                                                        660
tgtggagagc tggttaattt tctgccctgt gcgacaagtt tcaacttggc caagaaangg
agtcaagtta ttaaaaagca tcacaatgta gaatcttcca ggctgggttt tttggntttt
                                                                        720
tnggtggttn aanactgggg gnaaaagggg ggacctattt aaattccngg cctttaaaat
                                                                        780
caaatqqqcc aaaattaaqt tcaaqgaatq gaccattttt nggggnaaat ggttngaacc
                                                                        840
                                                                        864
ttntngggan ttcccncctt ccct
      <210> 202
      <211> 505
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(505)
      <223> n = A,T,C or G
      <400> 202
gnntnanach nttnactaat antganttag theegaeteg atecetetha etheanthan
                                                                         60
ancgntngaa ttgcccttnn tagcggccnt congncaggt acaaccagtt tggaaaacag
                                                                        120
```

```
tntcacaqtt tttttaaaaa ttacatatac aaccancaac tgacccagcc atttcactcc
                                                                        180
taggtattta cccaagatna actgaagtgt agatacaagc anagacttgn gcacaagtgt
                                                                        240
tcatqqtaaq ctttactngc antagctcca aactanggac aactcaaata gccaacangg
                                                                        300
aaatggacaa attatgttac tttcatacag tggaatattc tcttgtgata aaaataantg
                                                                        360
aacanttqat acatqqatqa atctcaaaat aattatgctg agtaaaagaa gccagacaaa
                                                                        420
                                                                        480
atgtacagtg catacageta ttcatgtggg tgccagetec atcccccagt gacetettca
                                                                        505
tacggncaga gggtggcatg gcanc
      <210> 203
      <211> 819
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (819)
      \langle 223 \rangle n = A,T,C or G
      <400> 203
ggcctcngca gcatgctcga ncggccgcca tgtgatggat atctgcagaa ttcgccctta
gegtggtege ggeegaggta egegggagag caggacegga gegegggeea agetggagat
                                                                        120
ggatgatgct gaccctgagg aaagaaacta tgacaacatg ctgaaaatgc tgtcagatct
                                                                        180
                                                                        240
gaataaggac ttggaaaagc tattagaaga gatggagaaa atctcagtgc aggcgacctg
gatggcctat gacatggtgg tgatgegcac caaccctacg etggccgatt ccatgcgtcg
                                                                        300
                                                                        360
gctggaggat gccttcgtca actgcaagga ggagatggag aagaactggc aagagctgct
qcatqagacc aagcaaaggc tgtaggcccc actggcccac cacagctgcc atgccaccct
                                                                        420
ctgcccgtat gaagaggtca ctgggggatg gagctggcac ccacatgaat agctgtatgc
                                                                        480
actiguacatt tigicigget tettitacte agcataatta tittigagatt catecatgia
                                                                        540
                                                                        600
tcaattgttc acttattttt atcacaagag aatattccac tgtatgaaag taacataatt
tgtccatttc cctgttggct atttgagttg tccctagttt ggagctattg cgagtaaagc
                                                                        660
taccatgaac atttgtgcac aagtctttgc ttgtatctac acttcagttt atcttgggta
                                                                        720
aatacctang agtgaaatgg cttgggtcaa tntgttggtt ggatatgtaa ttttttaaaa
                                                                        780
                                                                        819
aaaactgnga tactgttttc caaactgggt tgtccctct
      <210> 204
      <211> 840
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (840)
      \langle 223 \rangle n = A,T,C or G
      <400> 204
gnnnnntttn nnctnntgga accepttttg nnaagctgct cgacggccgc catgtgatgg
                                                                         60
atatctgcag aattcgccct tagcgtggtc gcggccgagg taccttnaga tctgagcaac
                                                                        120
tgtgttaatg aagtaatagc aatggtccac agtgaaagat gtgttggggt ttgcaaaaca
                                                                        180
agcattccgt cacctcttta ataatgtcac agactttttt aaaagagagg ctatcaagtt
                                                                        240
                                                                        300
gtaatataat ctgtcatgtt ttatttagga aggaaggtaa atttgtgctt gcacggggat
cattttgtat tatttttgct aatacccagt tgaagctaaa aagcaactat ttgaatcctg
                                                                        360
                                                                        420
tgaattaatt tataagaatg ttaaacagct ttggaaatac atgcatctta tgaatcatag
ccttatttag caagatcaat gttaaagtgt tgttatatgg caagtattta acacattcac
                                                                        480
agtgtttgtt tgatttcaac tgtgaattgt cttacagttt tttcaaacct agttgtttct
                                                                        540
atggacacct gototgaatt gtaccootca gtcaccagca aaagcattto caccoottto
                                                                        600
aacccccaat cagaccactg cattcagtgg tattggagga ctttcatcac agcttccagt
                                                                        660
aggtgggtct tggcacaggc agnotgactg gtatangaac tggtgctctt ggactccctg
                                                                        720
cagtgaataa cgaccctttt gtacctgccc gggeggccgc taagggcgaa ttccacacac
                                                                        780
tggccggccg ttactagtng gatccnaact cggtccaaan cttggcgtat tcatggtcnt
                                                                        840
      <210> 205
```

<211> 497

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (497)
      <223> n = A,T,C or G
      <400> 205
nnnnttgacc tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                        60
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacatttact ataaaagctg
                                                                       120
ttgcatttta gacaacttgt tgtttttatt ttttactgtt tctcagaggc attttagaat
                                                                       180
aaatacttta aatgaaagtt agtataaccg atatagaaca ctggcccacc cagagcagta
                                                                       240
acatettttg gaeggaetea catatgaggt ggateattte agtttgttaa atettacaet
                                                                       300
gtgtatagat aactataata tgtattgcat taatcacact acatagaaag gaaatgtcat
                                                                       360
                                                                       420
ggaagttcgc tagtgaaaaa caaaaagtta cccattattt ttattaaaga gtagggacta
gcttttggag tatgagaaaa aaaatcagat atacttcctc aggaacaata aatcactcac
                                                                       480
                                                                       497
ttgcctcacc tgttttt
      <210> 206
      <211> 820
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(820)
      <223> n = A,T,C or G
      <400> 206
gggcctntag aagcatgete gageggeege eagtgtgatg gatatetgea gaattegeee
tttcgagcgg ccgcccgggc aggtacatgt attgaagcta gaatcgagtc aagaaaaata
                                                                       120
aagccccatt ctccaactgc aaaatgtgct ttcccataat gaacactagt caccagcaca
                                                                       180
gaataatete caacatttte taaattetaa ttgecaactg tttetattta tatttgattt
                                                                       240
                                                                       300
atatttcatt tggagtctgt tacatggcag cttaggcaga ctagatcttg ttttttccaa
tgcagcataa tgagtatgat ctatttcttt tcaaataatc tttgagatcc caggaaaaaa
                                                                       360
aatgototgo tocattgago tataatgtaa atgtgtttgt ttaaaaaaca ggtgaggcaa
                                                                       420
gtgagtgatt tattgttcct gaggaagtat atctgatttt ttttctcata ctccaaaagc
                                                                       480
                                                                       540
tagtccctac tctttaataa aaataatggg taactttttg tttttcacta gcgaacttcc
atgacattte etttetatgt agtgtgatta atgeaataca tattatagtt atetatacae
                                                                       600
                                                                       660
agtgtaagat ttaacaaact gaaatgatcc acctcatatg tgagtccgtc caaaagatgt
tactgctctg ggtgggccag tgttctatat cgggtatact aactttcatt taaagtattt
                                                                       720
                                                                       780
attctaaaat gcctctgaga aacagtaaaa ataaaaacca caagttgcta aaatgcaaca
                                                                       820
gettttatag taaatgteet tgggeegega ceaegettag
      <210> 207
      <211> 496
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (496)
      <223> n = A, T, C or G
      <400> 207
enntigacet gattacgeca agettggtae egagetegga tecaetagta aeggeegeca
                                                                         60
gtgtgctgga attcgccctt agcgtggtcg cggcccgagg tacaaaagac aaaatcagag
                                                                       120
ttcaatttca gcagcaagac ttatcaagaa tttaatcact atttgacatc aatggttggt
                                                                        180
tgcctgtgga cgtccaaacc ctttgggaaa ggaatatata ttgaccctga aatcctagaa
                                                                       240
aaaactggag tggctgaata taaaaaacagt ttaaatgtag tccatcatcc ttctttcttg
                                                                        300
agttacgctg tttccttttt gctacaggaa agcccagaag aaaggacagt aaatgtgagc
                                                                        360
```

```
totattongg gaaagaaatg gagotggtat ttggactatt tattttcaca ngggttacaa
                                                                        420
ggettgaaac tttttataag aagtagtggt catcattett neatteecag ageagaagge
                                                                        480
                                                                        496
ataaactgca caatca
      <210> 208
      <211> 810
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(810)
      \langle 223 \rangle n = A,T,C or G
      <400> 208
gcatgetega eggeeegeea gtgtgatgga tatetgeaga aattegeeet ttegagegge
                                                                         60
cgcccgggca ggtactcctt gaggatggca gtctgtcagt gaaatgaaaa tgggaactca
                                                                        120
                                                                        180
agatgagcca ctttgctcta gcaatgagga gtgagtttag tccagtgtgt tcagtttatg
tcaacattca tttaatattg attgttgcag tttatgccct ctgctctggg aatggaagaa
                                                                        240
                                                                        300
tgatgaacac tacttcttat aaaaagtttc aagccttgta acccctgtga aaataaatag
tecaaatace ageteeattt ettteeeega atagagetea catttactgt cetttettet
                                                                        360
gggctttcct gtagcaaaaa ggaaacagcg taactcaaga aagaaggatg atggactaca
                                                                        420
tttaaactgt ttttatattc agccactcca gttttttcta ggatttcagg gtcaatatat
                                                                        480
                                                                        540
attectitee caaagggtit ggacgteeac aggeaaceaa ceattgatgt caaatagtga
ttaaattett gataagtett getgetgaaa ttgaactetg attttgtett ttgtaceteg
                                                                        600
                                                                        660
geogegacca egetaaggge gaatteeage acaetggegg eeggtactag tggateegag
                                                                        720
ctcggtccaa gcttggcgta atcatgggca tagctgtttc ctggtgtgaa attgntatcc
                                                                        780
gctcacaatt ccacacaaca tacgaaccgg aagcattaag tgtaaagcct ggggtgccta
                                                                        810
atgagtgage taacttacat taattgcgnt
      <210> 209
      <211> 495
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(495)
      <223> n = A, T, C or G
      <400> 209
cnnttgacct gattacgcca agcttggtac cgagctcgga tccctagtaa cggccgccag
                                                                         60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caactctcca gggcacaata
                                                                        120
cgtttacagc tgcctttcct tcacatactt ttctaattca gaactactca caattctaag
                                                                        180
caaattccca ttcacgaagt ctgtccataa tgcgaccttc tcttttttta acatatacat
                                                                        240
cttaaaaaac aaatatataa aaaattctta ttttgctgga atgctttcaa tttttcacat
                                                                        300
tttacatgat catcacattt atttcttata ttgaaaggca tggtttctgt tgacatgtcg
                                                                        360
tgcaaagcca aaaaaaaaaa anaaaaaaaa aagggctgga ttgcttttca attggtctaa
                                                                        420
cacttttcct tgtctaggct ttggatttta aagttcatga cagccccacc accagtagaa
                                                                        480
accccaaggc ttgca
                                                                        495
      <210> 210
      <211> 820
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (820)
     <223> n = A, T, C or G
      <400> 210
```

```
gggeeteaga getgetegan eggeegeeat gtgatggata tetgeagaat tegeeettte
                                                                      60
                                                                      120
gageggeege cegggeaggt acceaegttt tgetecaeae teettgaceg caggggeteg
                                                                     180
gacacaaacc cctgtcacca ggagagtcag tcagcactac ttgggagggc taaagggaaa
                                                                     240
tttggaaata aaattccaaa gtttggagta aaaaaattca agtgttgatt ttatattctt
tecetttetg acacageeta aagegtaggg ggaacatgtg titatetgtg ggagataaac
                                                                     300
                                                                     360
aagatggagt cccaaagact ttaacaaaat atttttttaa aaatccacta gaatagaaaa
tacattattt agatatactt tatgctgaga gtgagtatat atgcttgtcc tatttaaact
                                                                     420
tgtgagaaaa agtggtatcc cttgatacat ttagaaatat gggggctatc ttgtttcatt
                                                                     480
gtgggggtgg ggcagaagga gaataaatgc aggatgaccc tgttgaagga atcttancat
                                                                     540
                                                                     600
ggccaacagg ggacgtttcc agtcgattac caggaaatgc aagccttggg gtttctactg
gtggtggggc tgtcatgaac tttaaaatcc aaagcctaga caaggaaaag tgttagacca
                                                                     660
                                                                     720
attgaaaagc aatccagccc ttttttttt nnnntttttt tttggctttg cacgacatgt
caacagaaac catgcctttc aatntaagga aataaatgtg atgatcatgt aaaatgtgaa
                                                                     780
                                                                      820
aaattgaaag cattncacca aataaggaat tttttatttn
      <210> 211
      <211> 499
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (499)
      <223> n = A, T, C \text{ or } G
      <400> 211
canttgactg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                       60
tgtgctggaa ttcgccctta gcgtggtcgc ggcccgaggt acaactctcc agggcacaat
                                                                      120
acgittacag cigocitico ticacataci titiciaatic agaactacic acaaticiaa
                                                                      180
gcaaattccc attcacgaag tctgtccata atgcgacctt ctctttttt aacatataca
                                                                      240
                                                                      300
tottaaaaaa caaatatata aaaaattott attttgotgg aatgotttoa atttttoaca
ttttacatga tcatcacatt tatttcttat attgaaaggc atggtttctg ttgacatgtc
                                                                      360
gtgcaaagcc aaaaaaaaaa aaaaaaaaaa aagggctgga ttgcttttca atngggtcta
                                                                      420
acacttttcc ttqtctaggc tttggatttt aaagttcatg acagccccac caccagtaga
                                                                      480
                                                                      499
aaccccaagg cttgcattt
      <210> 212
      <211> 821
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (821)
      <223> n = A, T, C \text{ or } G
gggcccntan agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                       60
togagoggo goooggoag gtaccoacgt tttgctccac actcettgac cgcagggget
                                                                      120
cggacacaaa cccctgtcac caggagagtc agtcagcact acttgggagg gctaaaggga
                                                                      180
                                                                      240
aatttggaaa taaaattcca aagtttggag taaaaaaatt caagtgttga ttttatattc
tttccctttc tgacacagcc taaagcgtag ggggaacatg tgtttatctg tgggagataa
                                                                      300
360
aatacattat ttagatatac tttatgctga gagtgagtat atatgcttgt cctatttaaa
                                                                      420
cttgtgagaa aaagtggtat cccttgatac atttagaaat atgggggcta tcttgtttca
                                                                      480
ttgtgggggt ggggcagaag gagaataaat gcaggatgac cctgttgaag gaatcttagc
                                                                      540
                                                                      600
atggccaaca ggggacgttt ccagtcgatt accaggaaat gcaagccttg gggtttctac
tggtggtggg gctgtcatga actttaaaat ccaaagccta gacaaggaaa agtgttagac
                                                                      660
                                                                      720
caattqaaaa qcaatccagc ccttttttt ttttttttt ttggctttgc acgacattgt
taacagaaac catgcctttc aatattagaa ataaatgtga tgatcatgtt aaatgtgaaa
                                                                      780
```

aattggaagc cttcagcaaa ataagaattt ttatttnttt n

```
<210> 213
      <211> 497
      <212> DNA
      <213> Homo Sapien
      <400> 213
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                         60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caaaacaata gtctaaacta
                                                                        120
acacgaactg ttacctggtc tattaaagga tacacggtat ccactaaaca gacagatcct
                                                                        180
tatttccctg cttgatgttg caaagccctt ggcaaccagg ggcaaaggtc actggggttt
                                                                        240
gactaactgg ggctgagtgg cagctatgac tgtccttcag atttttgagt tgtttttgaa
                                                                        300
attaaaagct tctaaaagtt gcatcaacat cctcctaagc ccccatagga ttgtaacacc
                                                                        360
accacaaaag gccaccaaca ctttttaaac aaagtgaaaa ctgtctgaca ccaatcatct
                                                                        420
tgaaaactcc atggcaagtg cattagctat gatttcatca cttacaggta gagaagctta
                                                                        480
ctgtctactg gtgtggg
                                                                        497
      <210> 214
      <211> 817
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(817)
      \langle 223 \rangle n = A,T,C or G
      <400> 214
ggccttanag ctgctcgncg gccgccatgt gatggatatc tgcagaattc gccctttcga
                                                                         60
gcggccgccc gggcaggtac tctcagtcat atgcagaaat acttttttt taattaatag
                                                                        120
ttacaggett gttggtccag tgggatttgg gtagggggag aaagataeet tetaaaatgg
                                                                        180
atcaatagaa ccaaaataat acagcatgtt ctataaccac aaggaaatca aatgatcctg
                                                                        240
tcatgattcc agttagtcat aaccatgtta gcagtgctaa atgcatttta gaaatggtqa
                                                                        300
cttctgtggt tttcctagca tttgtctcta acaaatggtg aaataattac tcatggccct
                                                                        360
ctctgccatt gtctttcatt ttttcacagt gaaattagac ccctttactt caccattctg
                                                                        420
ccactgcaaa ttaagtataa agaaaatagc aagagtgtcc acaccagtag acagtaagct
                                                                        480
tetetacetg taagtgatga aatcataget aatgeacttg ceatggagtt tteaagatga
                                                                        540
ttggtgtcag acagttttca ctttgtttaa aaagtgttgg tggccttttg tggtggtgtt
                                                                        600
acaateetat gggggettan gaggatgttg atgeaaettt tagaagettt taattteaaa
                                                                        660
aacaactcaa aaatctgaag gacagtcata gctgccactc agccccagtt agtcaaaccc
                                                                        720
cagtgacett tgcccctggt tgccaaggge tttgcaacat caagcangga aataaggate
                                                                        780
tgnctgttag tgggataccg ggtatccttt aatagac
                                                                        817
      <210> 215
      <211> 495
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(495)
      \langle 223 \rangle n = A,T,C or G
      <400> 215
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                         60
tgtgctggaa ttegecetta gegtggteeg geegaggtae catgetgaet tettggtate
                                                                        120
ttttaaggee taatttteee tteettgaga ttaetgtagt gtgtteeage taatttetat
                                                                        180
ttggaaacga gttggaacag ctgaaaacta ggtattattg aaggcaaagc agcctcacqt
                                                                        240
cagtttttta tcagctcatt tgggaagttt ttttttttt ttttttaatt aattagaaag
                                                                        300
taggetggge acggtggete atgeetataa teecageact tggggaggee gaggatetee
                                                                        360
tctctggtgg atcacttgag ggcaggagtt aagagaccat cctggccaac atgatgaaac
                                                                        420
cctgtctcta ctaaaaatac aaaaagtagc tgggcgtggt ggcatactct tacaatccca
                                                                        480
gctacttggg aggcn
                                                                        495
```

```
<210> 216
     <211> 823
     <212> DNA
      <213> Homo Sapien
     <220>
     <221> misc_feature
      <222> (1) ... (823)
     <223> n = A,T,C or G
     <400> 216
gggcctcaga gcatgctcgn cggccgccag tgtgatggat atctgcagaa ttcgcccttt
cgagcggccg cccgggcagg tactttttt tctttttta catctgattt taatgcttcg
                                                                     120
                                                                     180
ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc taaacctctt
cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt agaaggaaag
                                                                     240
                                                                     300
taqaaagcct tactgtagga tttttaaaaa aaaatccatc tcaccccata ttggtcttaa
ataagtatag actaattaac ctaagctacc tttaacaacg tagaatttag atgggttcat
                                                                     360
                                                                     420
atatqtqaqa aaaacctgaa tataggacag gggtcctact tttttcccca cctctgtcgc
ccaggetaga gtatagtggt gtgatettgg eccaetgeaa eetetgette etaggtteaa
                                                                     480
gtgattctcc tgcctcagcc tcccaagtag ctgggattgt aagagtatgc caccacgccc
                                                                     540
                                                                     600
agctactttt tgtattttta gtagagacag ggtttcatca tgttggccag gatggtctct
taactectge ceteaagtga teeaceagag aggagateet eggeetneec aagtgetggg
                                                                     660
                                                                     720
780
aaaaacttnc caaatgagct gatnaaaaac tgacgtgang ctgctttgcc ttcaataata
                                                                     823
cctagttttc actggtccaa ctcgtttcca aatagaaatt acg
     <210> 217
     <211> 827
      <212> DNA
     <213> Homo Sapien
     <220>
      <221> misc_feature
     <222> (1) ... (827)
      <223> n = A, T, C or G
      <400> 217
                                                                      60
nnnnnnnggc ctntnnagca tgctegacgg cegccatgtg atggatatct gcagaattcg
ccctttcgag cggccgcccg ggcaggtact gtatcattgg cagatgtgac gtcaccgaca
                                                                     120
                                                                     180
accagagtga agtggcggac aaaactgagg attacctgtg gctgaagttg aaccaagtgt
gttttgacga cgatggcacc agctccccac aagacaggct cactctctca cagttccaga
                                                                     240
agcagttgtt ggaagactat ggcgagtccc actttacggt gaaccagcaa cccttcctct
                                                                     300
                                                                     360
acttocaagt cotgttootg acagogoagt ttgaagcago agttgcottt cttttcogca
tggagegget gegetgeeat getgteeatg tageactggt getgtttgag etgaagetge
                                                                     420
ttttaaagtc ctctggacag agtgctcagc tcctcagcca cgagcctggt gaccctcctt
                                                                     480
gettgeggeg getgaactte gtgeggetee teatgetgta ceteggeege gaccaegeta
                                                                     540
                                                                     600
agggcgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg taccaagctt
ggcgtaatca tggtcatagc tgtttcctgt gtgaaattgt tatccgctca caattccaca
                                                                     660
caacatacga gccggaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact
                                                                     720
cacattaatt gcgttgcgct cactgcccgc ttttcaatcg ggaaacctgt cgtgccagct
                                                                     780
                                                                     827
gcattaatga atcggncaac gccccgggan aagcggtttg cgtattt
      <210> 218
     <211> 498
      <212> DNA
      <213> Homo Sapien
      <400> 218
cacttgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca
                                                                      60
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacttttt ttttttttt
                                                                     120
taattoccac aacaacccat ttcaaaatga gaaaactagg ttgagtgact tgtccacagt
                                                                     180
```

```
240
tccaaagcta ataaaaatga tgaggcatat ttctcttctg ggcccactgt attcagttct
ttgttcttta cactgagtgc cgaaaaaaaa aaatcagact attttgattc tagaaagtga
                                                                       300
                                                                       360
gataattgaa aatgttaaca tatttctcca aaactgatca gactgtggag tctgtcactt
ttttggtata ataaaggagt ttgaagaaac aaatgacatc attcctgatg atggtagccc
                                                                       420
actecaacaa aggegtatat atgtaggeaa gtttgaagat atetataaga geattaaaag
                                                                       480
                                                                       498
gcaagtgcac cattgtgg
      <210> 219
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(818)
      <223> n = A, T, C or G
      <400> 219
ggcctntnga gctgctcgac ggccgccatg tgatggatat ctgcagaatt cgcccttagc
                                                                        60
                                                                       120
gtggcgcggc cgaggtacct agaaaacaga aacttgagta gacatggtaa tgaccagaaa
aggetatett tatacattte tittgetaeg etteaaatte atgteaceta aaagttgtga
                                                                       180
                                                                       240
agtgcacaaa acaaatctac ttaactgaaa attattttca atgaatggga tgtttagaac
totgtgaggg tttttaaggt ottttogaat agcaaattot aatgaggett ttttaagttg
                                                                       300
                                                                       360
gcaatttaaa ctcatacaag aaataaaaac tcaccagtgt ggctgggcag aatatatata
ttttctcaaa tattgtttgt ttgttttttc cctgcactgt atccatggtc ccatgatgaa
                                                                       420
                                                                       480
actgttatat tgctgatata tttattggaa tatgtgggcc aacttccttt ccactcaaca
tatggattgg tagtttaaaa taatteettt etattaagea aatgtgtgge taaggeacat
                                                                       540
ttaaatagcc cattaaacca atgagatgac aatgtgttac cctcagagaa agcttaattt
                                                                       600
ttggagtaat caattacaca tatcacagaa tgtctcatga gaacattttt ggctaggtct
                                                                       660
                                                                       720
accaatttat catgcaaata attatagatt ttcatttgag gcaaagatgc tgattcatca
ttagtaacat ggtcacaaat aatcatttat tttattttgg taacatctgt ctttcctgtg
                                                                       780
                                                                       818
gggaaactta ctatatgctc tacgttaatt aaattaaa
      <210> 220
      <211> 497
      <212> DNA
      <213> Homo Sapien
      <400> 220
cacttgacct gattacgcca agettggtac cgagetegga tecactagta aeggeegcca
                                                                        60
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacagccat gaaattgttg
                                                                       120
ctactcatag aaagtcttag tatagtttgg tttaaacatt ttaaaattgc aaataaatat
                                                                       180
agatagataa tatcatgatg agaaggtcac gggaagcctg gagatttcag ggtgctcttt
                                                                        240
cataattgga gcgagaatca tgtaacagtt aagaaactaa actcttgagc cttcatagtc
                                                                       300
tttgctttct ccccatttat ttatctgata ttatataccc tctttaatta tagactggac
                                                                       360
tgaaatattt tatttttgtt ttattataaa aaatcctact cgtctttaac atgttctctt
                                                                       420
                                                                        480
aaagagtgtt tcatatataa atactttccc cccaaaatat aaagaggcta accactatag
                                                                       497
tattgaaaga ttgaaag
      <210> 221
      <211> 831
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (831)
      <223> n = A,T,C or.G
      <400> 221
cnnnannggg cctntanagc atgctcgacg gccgccatgt gatggatatc tgcagaattc
                                                                         60
gcccttagcg tggtcgcggc cgaggtacaa tgaaagtatg agctacctct ctgaagtctg
                                                                        120
```

```
gaaaccttga gagtattaag gttacatgca taaaatcttt aaaatggaag tgtcattaca
                                                                       180
                                                                       240
tggtaaacca attcaaatta aaaataatct catgctgtga aagcaaaata tataactggt
tracccatte ataggtaatt geacgtettt gttacatete aatagtttet ttgtatttgt
                                                                       300
tgcaatcacc ctccttcttc tcaacactct tttctacctc catgtaactg ctgttgtgaa
                                                                       360
ttotttataa tattotoato aatgtttaaa gatgaagttt aaagtgotta caaaggaago
                                                                       420
attttaactc ctcttagaac tgagccttta aatttggttt tagacaccct aggtctttct
                                                                       480
ttcaatcttt caatactata gtggttagcc tctttatatt ttggggggaa agtatttata
                                                                       540
                                                                       600
tatqaaacac totttaagag aacatgttaa agacgagtag gatttttat aataaaacaa
                                                                       660
aaataaaata tttcagtcca gtctataatt aaagagggta tataatatca gataaataaa
tggggagaaa gcaaagacta tgaaggctca agagtttagt ttcttaactg gtacatgatt
                                                                       720
ctcgctncaa ttatgaaaga gcaccetgaa atctncange ttnccgtgae ettetcatca
                                                                       780
tgatattatc tatctatatt tattgcaatt ttaaaatggt taaaccaaac n
                                                                       831
      <210> 222
      <211> 497
      <212> DNA
      <213> Homo Sapien
      <400> 222
cacttgacct gattacgcca agettggtac cgagetegga tecactagta aeggeegcca
                                                                       120
qtqtqctqqa attcqccctt aqcqtqqtcq cggccgaggt actctttctc tcccctcctc
tgaatttaat totttcaact tgcaatttgc aaggattaca catttcactg tgatgtatat
                                                                       180
                                                                       240
tqtqttqcaa aaaaaaqtg tctttgttta aaattacttg gtttgtgaat ccatcttgct
ttttccccat tggaactagt cattaaccca tctctgaact ggtagaaaaa catctgaaga
                                                                       300
                                                                       360
gctaqtctat cqqcatctqa caggtgaatt ggatggttct cagaaccatt tcacccagac
agoctgtttc catcctgttt aataaattag tttgggttct ctacatgcat aacaaaccct
                                                                       420
gctccaatct gtcacataaa agtctgtgac ttgaagttta gtcagcaccc ccaccaaact
                                                                       480
                                                                       497
ttatttttct atgtgtt
      <210> 223
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220×
      <221> misc_feature
      <222> (1) ... (822)
      \langle 223 \rangle n = A,T,C or G
      <400> 223
gggcctnaga gctgctcgnc ggccgccatg tgatggatat ctgcagaatt cgcccttcga
                                                                        60
geggeegeee gggeaggtae tttattttea aaaaacteat atgtegeaaa aaacacatag
                                                                        120
aaaaataaag tttggtgggg gtgctgacta aacttcaagt cacagacttt tatgtgacag
                                                                        180
attggagcag ggtttgttat gcatgtagag aacccaaact aatttattaa acaggatgga
                                                                        240
aacaggetgt etgggtgaaa tggttetgag aaccatecaa tteacetgte agatgeegat
                                                                        300
agactagete tteagatgtt tttetaceag tteagagatg ggttaatgae tagtteeaat
                                                                        360
ggggaaaaag caagatggat tcacaaacca agtaatttta aacaaagaca ctttttttt
                                                                        420
gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag ttgaaagaat
                                                                        480
taaattcaga ggaggggaga gaaagagtac ctcggccgcg accacgctaa gggcgaattc
                                                                        540
                                                                        600
cagcacactg gcggccgtta ctagtggatc cgagctcggt accaagcttg gcgtaatcat
ggtcataget gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag
                                                                        660
                                                                        720
ccggaagcat aaagtgtaaa gcctggggtg cctaatgagt gagctaactc acattaattg
cgttgcgctc actggccgct tttcagtcng gaaacctgtc gtgccagctg cattaatgaa
                                                                        780
                                                                        822
teggecaacg egeegggaga ngengnttge gtattgggee en
      <210> 224
      <211> 494
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature .
```

```
<222> (1)...(494)
      \langle 223 \rangle n = A,T,C or G
      <400> 224
cnettgaent gattacgeca agettggtae egagetegga tecetagtaa eggeegecag
                                                                        60
                                                                       120
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta ctttttttt ttttttaac
caactcaata tgtgtttgat gatagtgaat tgataaaacc cgaagctttt ccctgtaaat
                                                                       180
cttacatett tgcctttaaa gaatgggtta caaccateae tagateacag tagtgcctaa
                                                                       240
                                                                       300
tgaaggttga gaaccgtagg agaggctctc atgctgtaaa taatgttgca ggctaataac
ctttcatcac ttcctttgtg cgcttcctgc cttaagtgac aagtagcaac atggcttggg
                                                                       360
teccetqtge agcateaget tatgetgeca caagteagtt tgeaccetag gtgeccagga
                                                                       420
gctagtatcc ttagatcttt ctatcgctaa cttaattctc ttcgttattt atctgaccct
                                                                       480
                                                                       494
ctaactccat gtct
      <210> 225
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(822)
      <223> n = A, T, C \text{ or } G
      <400> 225
gggccttnga gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgcccttcg
                                                                        60
ageggeegee egggeaggta ctttaatttt gettgtteaa atgatetaca ettacatttt
                                                                       120
gcaaatcttt ttttttaaat tttttaaatt ttatattttt tttccagcca actcaaggcc
                                                                       180
240
gtccacagaa taagacacaa gaaacctcaa gctgtgaggt caatttgtaa ttaaaagaat
                                                                       300
                                                                       360
actaagatta gatgaacaca acactcagaa atactctagg agagctgaaa aagaaggaac
agatgttaac aaaacaaatt aaggctgctg gggaacctga gtccatgtta agcttgggtt
                                                                       420
qactqtaaaq aatttttttt tttaatqcaa qttagacatg gagttagagg gtcagataaa
                                                                       480
                                                                       540
taacgaagag aattaagtta gcgatagaaa gatctaagga tactagctcc tgggcaccta
gggtgcaaac tgacttgtgg cagcataagc tgatgctgca caggggaccc aagccatgtt
                                                                       600
\verb"gctacttgtc" acttaaggca" ggaagcgcac" aaaggaagtg atgaaaggtt attagcc \verb"tgc"
                                                                       660
acattattta cagcatgaga goctotocta cggttotcaa cottoattag goctactgtg
                                                                       720
                                                                       780
atctantgat ggntgtaccc attctttaaa ggcaaagatg taaggattta cagggaaaag
cttcgggttt tatcaattca ctatcatcaa acacatattg ng
                                                                       822
      <210> 226
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(498)
      \langle 223 \rangle n = A.T.C or G
      <400> 226
anntaaacta tgacctgatt acgccaactt ggtaccgagc tcggatccac tagtaacggc
                                                                        60
cgccagtgtg ctggaattcg ccctttcgag cggccgcccg ggcaggtacc ctctcatata
                                                                       120
tgcaaacaaa tgcagactag gcctcaggca gagactaaag gacatctctt ggggtgtcct
                                                                       180
gaagtgattt ggaccctga gggcagacac ctaagtagga atcccagtgg gaagcaaagc
                                                                       240
cataaggaag cccaggattc cttgtgatca ggaagtgggc caggaaggtc tgttccagct
                                                                       300
cacatetnat etgeatgeag caeggacegg atgegeeeae tgggtettgg etteeeteee
                                                                       360
atetteteaa geagtgteet tgttgageea tttgcateet tggeteeagg tggeteeete
                                                                       420
agtotggact ctaccacttg ggtotccaga ttttctgtta cgtccttgtg ggtcaggata
                                                                       480
tttctggaag tcactccg
                                                                       498
```

<210> 227

```
<211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A,T,C or G
      <400> 227
                                                                        60
gggcctctna agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
cgtggtcgcg gccgaggtac attgatgggc tggagagcag ggtggcagcc tgttctgcac
                                                                        120
                                                                        180
agaaccaaga attacagaaa aaagtccagg agctggagag gcacaacatc tccttggtag
ctcagctccg ccagctgcag acgctaattg ctcaaacttc caacaaagct gcccagacca
                                                                        240
                                                                        300
geacttgtgt titgattett ettttteee tggeteteat cateetgeee agetteagte
cattccagag tcgaccagaa gctgggtctg aggattacca gcctcacgga gtgacttcca
                                                                        360
                                                                        420
gaaatateet gacccacaag gacgtaacag aaaatetgga gacccaagtg gtagagteca
gactgaggga gccacctgga gccaaggatg caaatggctc aacaaggaca ctgcttgaga
                                                                        480
                                                                        540
aqatqqqaqq qaagccaaga cccagtgggc gcatccggtc cgtgctgcat gcagatgaga
                                                                        600
tgtgagetgg aacagacett cetggeecae ttetgateae aaggaateet gggetteett
                                                                        660
atggetttge ttecaetggg attectaett aggtgtetge ceteaggggt ceaaateaet
traggarace craagagatg teetttagte tetgetgagg cetantetge atttggttge
                                                                        720
                                                                        780
atatatgaaa aggtacctgc ccgggccggc cgttcnaang gcgaatttca gcacactggc
                                                                        815
ggncgntact agtggatccc aactcggtac caagc
      <210> 228
      <211> 512
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1)...(512)
      \langle 223 \rangle n = A,T,C or G
      <400> 228
                                                                         60
annnnntttn acctannact atgacctgat tacgccaact tggtaccgag ctcggatcca
ctagtaacgg ccgccagtgt gctggaattc gccctttcga gcggccgccc gggcaggtac
                                                                        120
                                                                        180
taggtttgca aaaccaatag catgcacatg tgttgggctg aggttcatgt gtcagagact
                                                                        240
cagttgtaga aggaactttg aatctggcag gcacttaact gtggctgctc agaactaatg
tatctggggc tgcttgagca ggggctgagg tcagaggcag ggagtgagct ctccatcatc
                                                                        300
cttgactcag acccagetce geaggagete catggteate cetggagete atgtggagtg
                                                                        360
caaggtccgg gagtggggc gctgacagaa acaaatctgg ggggatcagc cagggtcagc
                                                                        420
aggggacaga gatcatgtct tttagaagaa tgtgggcttc ctgacctata gaagggcagc
                                                                        480
                                                                        512
tgttcacccc ctgcagatga tagcagggat ng
      <210> 229
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (815)
      <223> n = A,T,C or G
      <400> 229
gggcctnaga gcatgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                         60
cgtggtcgcg gccgaggtac ttttttttt tttttttt ttcagagata ggttcttact
                                                                        120
atgctgccct ggctggagtg cagtggcttt cttaggggca atcacagctc actgcagcct
                                                                        180
ggaactectg ggeteageet cetaagtagt tgagactace aatgeaegee accatacetg
                                                                        240
gccttagata ccccctgtat cctggaactc actccttata agagacactg aatgtggaag
                                                                        300
```

```
tetteqeaqa tattaaqqqe actqcccaqt teetqtettt gaattattqq gecaacaaca
                                                                       360
gaaaggcgct cctgaggccc cagatcatcc ctgctatcat ctgcaggggg tgaacagctg
                                                                       420
cccttctata ggtcaggaag cccacattct tctaaaagac atgatctctg tcccctgctg
                                                                       480
accetggetg atcccccag atttgtttct gtcagcgccc ccactcccgg accettgcact
                                                                       540
ccacatgage tecagggatg accatggage tectgeggag etgggtetga gteaaggatg
                                                                       600
atggagaget cactecetge etntgacete ageceetget caageageee cagatacatt
                                                                       660
agttctgage ageccagtta agtgcetgee agattcaaag tteettetae aactgagtet
                                                                       720
ctgacacatg aaccttaage ccaacacatg tgcatgctat tgggttttgc aaacctagta
                                                                       780
                                                                       815
cctgnccggg cgggccgttc gaaanggcga attct
      <210> 230
      <211> 502
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (502)
      \langle 223 \rangle n = A,T,C or G
      <400> 230
tnnanctana cttgacctga ttacgccaac ttggtaccga gctcggatcc actagtaacg
                                                                        60
                                                                       120
geogecagtg tgotggaatt egecettteg ageggeegee egggeaggta cacagagatg
eggteeaget geaggteget gteecegtgg taggtgeegg tggggtegat geeatgttea
                                                                       180
teactgatea coteceagaa ettggeaceg atetggtage cacactgace ageetggatg
                                                                       240
tgcacgattt ccctcatggt taaaatttaa tttttttgct cgcctcaagg tatgtatggg
                                                                       300
gcaagaaaat aagtaatttt ttttctccgc aggtcgcagg ctggaaggtt ggaatgcgcc
                                                                       360
ccagaggctg gagcagcgag gtgcaaacgc gacggcagga aggttctgag agccccgcgt
                                                                       420
                                                                       480
accteggeeg egaceaeget aagggegaat tetgeagata tecateaeae tgeggeeget
cgagcatgca tctagagggc cc
                                                                       502
      <210> 231
      <211> 817
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (817)
      <223> n = A,T,C or G
      <400> 231
nngggcetet nnagetgete gaeggeegee atgtgatgga tatetgeaga attegeeett
                                                                       120
agegtggteg eggeegaggt aegegggget eteagaacet teetgeegte gegtttgcae
                                                                       180
ctegetgete cageetetgg ggegeattee aacetteeag cetgegacet geggagaaaa
                                                                       240
aaaattactt attttcttgc cccatacata ccttgaggcg agcaaaaaaa ttaaatttta
accatqaqqq aaatcqtqca catccaqqct qqtcaqtqtq qctaccaqat cqgtqccaaq
                                                                       300
                                                                       360
ttctgggagg tgatcagtga tgaacatggc atcgacccca ccggcaccta ccacggggac
agegaeetge agetggaeeg catetetgtg tacetgeeeg ggeggeeget egaaagggeg
                                                                       420
aattocagca cactggcggc cgttactagt ggatccgagc tcggtaccaa gcttggcgta
                                                                       480
atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat
                                                                       540
acgagccgga agcataaagt gtaaagcctg gggtgcctaa tgagtgagct aactcacatt
                                                                       600
aattgegttg egeteactge eegettteea gtegggaaae etgtegtgee agetgeatta
                                                                       660
                                                                       720
atgaatcggc caacgcgcgg ggagaggcng nttgcgtatt gggcgctctt ccgcttnctc
geteactiga etegetiges eteggiesti ensettsess enancessat teasettact
                                                                       780
                                                                       817
taaaggeggt aataceggtt atccaccaga attangg
      <210> 232
      <211> 481
      <212> DNA
      <213> Homo Sapien
```

```
<400> 232
actatgacct gattacgcca agettggtac cgagetegga tecaetagta aeggeegeca
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacaaattt gttgtgtttt
                                                                        120
                                                                        180
ttatgttcta ataatactga gacttctagg tcttaggtta atttttagga agatcttgca
tgccatcagg agtaaatttt attgtggttc ttaatctgaa gttttcaagc tctgaaattc
                                                                        240
                                                                        300
ataatccgca gtgtcagatt acgtagagga agatcttaca acattccatg tcaaatctgt
taccatttat tggcatttag ttttcattta agaattgaac ataattattt ttattgtagc
                                                                        360
                                                                        420
tatatagcat gicagattaa atcatttaca acaaaagggg tgtgaaccta agactattta
aatgtottat gagaaaattt cataaagcca ttotottgto attoaggtoo agaaacaaat
                                                                        480
                                                                        481
      <210> 233
      <211> 809
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(809)
      \langle 223 \rangle n = A,T,C or G
      <400> 233
gggcctctnn agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgccctta
gcgtggtcgc ggccgaggta caaaagatac tgttcacccc attagagaac tgatttgaag
                                                                        120
                                                                        180
ttactcttcc ctgtgagggc tctgtcatct taactgtatt cacatacttt caactgttcc
cottgctgct aacctcaggt totttagttc atctatctgg cagagotgat ttggggaaaa
                                                                        240
                                                                        300
caagacaaac cttgtcaggt tttcttaata aataagcagt tgtcatgttt caagagtttt
agaaatgagc aataatcaag gaagaggaca acgattgcat acgtttataa tatttagaac
                                                                        360
                                                                        420
atcttttgcc acaataaaca ctggaaacca cccacttgtg gacaccaaac atttggattt
gtatattttg tggcattccc tcactctaat cctctcatcc ttaaaaattt tcagaaattt
                                                                        480
ttgcagcaac aaacactgat tgcaacatat gatttagggt agatttatga accatttttt
                                                                        540
cactgaaata catcaacagg agtgagtagt ctgagtgacc accccagcat ggagaaaact
                                                                        600
                                                                        660
gtagtttaca gattcttctg gagcattttt atttctagat tgcagtggaa gtctaacccc
ccttggagat gtctgcctta aagggtcttt ggccagggtc ctctgtagag ccatagtcca
                                                                        720
                                                                        780
qatctactct atttqngtgc tccttacaac atcagaacag caactctcaa tccggatcat
                                                                        809
cccagaatgc cgctgagtca cagcgtggg
      <210> 234
      <211> 482
      <212> DNA
      <213> Homo · Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (482)
      \langle 223 \rangle n = A,T,C or G
      <400> 234
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                         60
                                                                        120
agtgtgctgg aattcgccct tcgagcggcc gcccgggcag gtactgaaaa gaagatagtg
ccatttgaaa caacagatgc atcttttata cattttcaca agttngtttt tcatattttt
                                                                        180
aaaggcccca tttatctgta acagtggtat ttttatttag agtatcggct acttaatata
                                                                        240
tacatgcaac aatatatgct ttaatagtca tttaactttt angaatattt catnacatta
                                                                        300
agtggttaag catagcgtta aaagagtgga atataaggaa tannaanntn tngaaaatac
                                                                        360
gctgctannt tcattngcan actatagtag aatggagatg cccataaaag tgatcattgc
                                                                        420
                                                                         480
ccaactgaat tectaceeng aactaacatg tgatteteaa gtgggganaa atattattaa
                                                                        482
      <210> 235
      <211> 474
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1) ... (474)
      <223> n = A, T, C or G
      <400> 235
acttgacctg attacgccaa gcttggtacc gageteggat ccactagtaa eggeegeeag
                                                                         60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta cattacttgg tgttaacatt
                                                                        120
gttggcagtg gtagcccctt ttcagaaagc aacttgctgt aagtcagggt gtccgttcca
                                                                        180
accttcagct agtgaaaagg tagtaacaaa tggtaaacaa gagaatgatt gtttaaacct
                                                                        240
atotgtggac acttaatgca actgtttaaa aatgataatc acgagttatg tagcaacgtg
                                                                        300
gaaatatatt tacagaacat taatggagaa gcagggacac gaagtatatt atactacagt
                                                                        360
tataactcaa cagtcattat atgccggtca tttaccagtc atttaaccag ttcattataa
                                                                        420
ctgtttaaaa atatatatgc ttatagtcaa aagctgttgt ggtgttgttg ttgn
                                                                        474
      <210> 236
      <211> 819
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (819)
      \langle 223 \rangle n = A,T,C or G
      <400> 236
gggccttnna getgctcgnc ggccgccagt gtgatggata tetgcagaat tegccettte
                                                                         60
gageggeege eegggeaggt actitttitt titttittt titttattit taactitatt
                                                                        120
tttattgntg acactattac agatagaatg accacaacca tattaacaaa ccaaaaacct
                                                                        180
gtgcacagaa acaagatgaa gaaaatatat caagatgtta aacacactct ttggatggtg
                                                                        240
aaaacatggg tgagtttctc ttctacattt ctgtaacttc aaagtttcta taatqaacac
                                                                        300
atttcatata taatggaaat atatgtagta aaggtggact accaaaacac tagaatgatg
                                                                        360
acctttcaag gaaaccgaaa caaaataacc ataatcccac aacaaccaca caactatttc
                                                                        420
ttgnttttca tctttcttcc catctttgac atttatgcat acttatcact aacaccetaa
                                                                        480
taatcacaga ctagtgcaca gatcaagatg ttaacagtta attgttgttg ggtgttggga
                                                                        540
atatgtgtga attitcttta ctgaatttcc aaagttttgt atgagtatgt attatatttg
                                                                        600
taatggaaaa tacatacata aaatttatta ccaaaacacc aaagattatt taagggaatt
                                                                        660
tgagacaaaa tatttaacca aattcccaca atgacaacac tattttagtt attttccaca
                                                                        720
tottttcatt taagacttta tgcacacata tttaacactg gtatcacaag cgtgggcact
                                                                        780
gaaacaagga tnganggaac nggatcagga tgttagccg
                                                                        819
      <210> 237
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) . . . (483)
      <223> n = A,T,C or G
      <400> 237
agettgacet gattaegeea agettggtae egagetegga tecaetagta aeggeegeea
                                                                         60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt actaagctca gcatgtctca
                                                                        120
tggtcaatta ctgcgtattt ccaaaaaatg tgttgtttgg tcttgagaaa attctttagc
                                                                        180
cccttgacac cagaattatc tccactgtag aaaaaataga caattatagt ctaacaggta
                                                                        240
aatcacaaaa attottcago cacacttoot gggttcaaat gtggttttto tactcagtaa
                                                                        300
tattgtaacc ctgggcaagt tatttaactt gtctaagtct cagtttctcc atctgtaaaa
                                                                        360
tgaggataat cacaatatot actacataat gttottotga agatgtaatg agataatoca
                                                                        420
tgtnaaatat tcanacagca cataggaatg ggtcatttaa tgtttatcat tacttgccta
                                                                        480
                                                                        483
```

```
<210> 238
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (815)
      <223> n = A, T, C or G
      <400> 238
gggcccntnn agetgctcgn eggccgccag tgtgatggat atctgcagaa ttegccettt
                                                                          60
cgagoggcog cccgggcagg taccattatt tttcattcaa taccatatgt ctgaaaaata
                                                                          120
ggcaagtaat gataaacatt aaatgaccca ttcctatgtg ctgtctgaat attttacatg
                                                                          180
gattatetea ttacatette agaagaacat tatgtagtag atattgtgat tatecteatt
                                                                          240
ttacagatgg agaaactgag acttagacaa gttaaataac ttgcccaggg ttacaatatt
                                                                          300
actgagtaga aaaaccacat ttgaacccag gaagtgtggc tgaagaattt ttgtgattta cctgttagac tataattgtc tatttttct acagtggaga taattctggt gtcaaggggc
                                                                          360
                                                                          420
taaagaattt totoaagaco aaacaacaca ttttttggaa atacgcagta attgaccatg
                                                                          480
                                                                          540
agacatgctg agcttagtac ctcggccgcg accacgctaa gggcgaattc cagcacactg
geggeegtta etagtggate egageteggt accaagettg gegtaateat ggteataget
                                                                          600
gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag ccggaagcat
                                                                          660
aaagtgtaaa geetggggtg eetaatgagt gagetaacte acattaattg egttgegete
                                                                          720
                                                                          780
actgnccgct ttccagtcgg gaaacctgtc gtgccagctg cattaatgaa tcggncaacg
cgccggggag aggcngnttg cgtattgggc gctct
                                                                          815
      <210> 239
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(483)
      <223> n = A, T, C or G
      <400> 239
actatgacet gattacgeca agettggtac egagetegga tecaetagta aeggeegeca
                                                                         120
gtgtgctgga ättcgccctt agcgtggtcg cggccgaggt acttttttt tttttttt
ttttttttta gegageaagt atggnttatt aeggaeaaat ggtagaaaaa tgttaetaat
                                                                          180
atccatagat aagttootta agtoatgtag agagactgtt attaaaagtt tgctgcattt
                                                                         240
ttctattgaa tcaagaacta gctaccagtt acagtgcctt ctaaacacac agttagcttt
                                                                          300
getttateaa taaccaaata ataaactagg teecaatggt tttgteeaca tntagattgt
                                                                         360
traggtgate aggaactett ttatttgtgt getttagett ttagttettg gttatatete
                                                                          420
caaatacgaa aaagctgaga ggctcctact gcccccacaa agaaattaac agcaaacaga
                                                                         480
                                                                          483
      <210> 240
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A,T,C or G
      <400> 240
gggcetntna getgetegae ggeegeeatg tgatggatat etgeagaatt egecettteg
                                                                          60
agoggoogeo ogggoaggta caaccatooa goaggtooca gaacagtttt ottotgggot
                                                                         120
ccaattatga aatgggggtt ggtgtgtgct ggattggctg atatggccag acctgcagaa
                                                                         180
```

```
aaacttagca cagctcaatc tgctgttttg atggctacag ggtttatttg gtcaagatac
                                                                       300
tcacttgtaa ttattccaaa aaattggagt ctgtttgctg ttaatttctt tgtgggggca
gtaggageet eteagetttt tegtatttgg agatataace aagaactaaa agetaaagea
                                                                       360
                                                                       420
cacaaataaa agagtteetg atcacetgaa caatetagat gtggacaaaa ccattgggac
ctagtttatt atttggttat tgataaagca aagctaactg tgtgtttaga aggcactgta
                                                                       480
                                                                       540
actggtaget agttettgat teaatagaaa aatgeageaa aettttaata acagtetete
tacatgactt aaggaactta totatggata ttagtaacat ttttctacca tttgtccgta
                                                                        600
                                                                        660
ataaaccata cttgctcgct aaaaaaaaaa aannnnnaaa aaaaaaagta cctcggccgc
gaccacgcta agggcgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg
                                                                       720
taccaagett ggcgtaatca tgggtcatag etggtteetg tgtgaaatgg tatccgntca
                                                                       780
caattncaca caacatacga accggaagcc ttaag
      <210> 241
      <211> 486
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (486)
      \langle 223 \rangle n = A,T,C or G
      <400> 241
agctatgacc atgattacgc caagcttggt accgageteg gatecactag taacggccgc
                                                                        60
cagtgtgctg gaattegeee ttageggeeg ceegggeagg tactteecac cactggaaat
                                                                        120
gttagcataa aagaacttgg agaggaaaaa agtattaaca aaactgcagt ctgcactctt
                                                                        180
taaacctgtt taaggetett catcetggtt agcaaaaggt gtgaatgtaa tgtgatggaa
                                                                        240
tttaaaagtt ttatgagacc aggcacagtg gctcacgact gtaattccag cagtttagga
                                                                        300
                                                                        360
agecgaagtg tgeagateae etgaggteeg gagaceagee tggeeaacat ggtgaaacce
tgtctctact agaaatacaa aaattagcca ggtgtggtgg cgggcgcctg taatcccaac
                                                                        420
                                                                        480
tactcaggag gctgaggcta gagaatcact tgaacccagc angcggaggt tgcggtgagt
                                                                        486
cganat
      <210> 242
      <211> 481
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (481)
      <223> n = A,T,C or G
      <400> 242
anttgacctg attacgccaa gcttggtacc gagctcggat ccctagtaac ggccgccagt
                                                                         60
gtgctggaat tcgcccttcg agcggccgcc cgggcaggta catcagtgtt cattitatta
                                                                        120
tttcttacac tgtcttcatg acttacacat aatattttgc tagttttaaa acataagatg
                                                                        180
tgataataat ctaaacagac caaaggaaat aaatgaatat gattaaaaaa agacagagaa
                                                                        240
taagccctgt ctgatggaaa gcataacaaa gcaggtagaa caactgtcag gaatgcttga
                                                                        300
                                                                        360
tocaataaag ctaggtttgt gatccacaac acttcagcat tttaatgtga tttttgatgt
tngctttttg caatggtgat tctcagttgc ctccctcctg tgtctttaca agctgaaatc
                                                                        420
                                                                        480
aagtqaaqct acttctgact ttttctaaaa cttaaaccca acatgaaggt ctgcgtattc
                                                                        481
      <210> 243
      <211> 824
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (824)
```

<223> n = A, T, C or G

```
<400> 243
channgggcc ththnagcat gctcgacggc cgccatgtga tggatatctg cagaattcgc
ccttagcgtg gtcgcggccg aggtacataa tactttagat aaacättttt agaataactt
                                                                      120
tattataact cgataagcaa aataatccaa acctttatac atttctacaa ggatagtcac
                                                                      180
atatgtcaat tttteggttt cetetegtge etattttgte teetgageeg geceetttee
                                                                      240
agetgacacg tgtgctccgt gttctcccac aatagtgtga cctggcctga gtccatgccg
                                                                      300
                                                                      360
ccgtgagcct cctttctgtg cttacaacag cagcctgcct gatgtcagtt atggactatt
420
agagacccgc tgctgttgca tcatggaaaa gtgccacata cgtgcacatg tgaaagaata
                                                                      480
cgcagacctt catgttgggt ttaagtttta gaaaaagtca gaagtagctt cacttgattt
                                                                      540
cagcttgtaa agacacagga gggaggcaac tgagaatcac cattgcaaaa agcaaacatc
                                                                      600
aaaaatcaca ttaaaatgct gaagtgttgt ggatcacaaa cctagcttta ttggatcaag
                                                                      660
catteetgae agttgtteta cetgettttg ttatgettte cateagaeag ggettattet
                                                                      720
ctgtcttttt taatcatatt catttatttc ctttggtctg tttagattat tatcacatct
                                                                      780
tatgttttaa aactagcaaa atattatgtg taagtcatga agnt
                                                                      824
      <210> 244
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (483)
      \langle 223 \rangle n = A,T,C or G
      <400> 244
actatgacet gattacgeea agettggtac egagetegga tecaetagta aeggeeegee
                                                                       60
agtgtgctgg aattegeeet ttegagegge egeeegggea ggtaegeggg ggcagggtgt
                                                                      120
ttaatcgtcg ccaagcggga cttactgcaa gctatcaaat ctgaggtctt attttgttga
                                                                      180
gtcgaaagtg aaattttcct ttggccaacg tgacagggct ttgtttggtg gtaaaaaggg
                                                                      240
ttactagaca cocctcatto cactgocact ggagggcgca tttctcagct cttgctcttc
                                                                      300
asacctgctg asaggaattc ctagatctaa acaccagcat ttgacattgt qcagcaaana
                                                                      360
aatggttatg ganaageeea gteegetget tgtanggegg gagtttgtga ggeaatatta
                                                                      420
tactttgctg aataaagctc cggaatattt acacaggttt tatggcagga attcttccta
                                                                      480
tat
                                                                      483
      <210> 245
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(822)
      <223> n = A, T, C or G
ttgggcccnt nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                       60
tagegtggte geggeegagg taetteeect egaaacataa teggttitge aattaagatt
                                                                      120
ctctgaactg gttcagagtc atcaaaaacc acaaaaccaa aatttggaag ctttccccca
                                                                      180
acaccettgg tattgatgeg aagtteeaca aegttteeaa aacteatgaa gaatteettt
                                                                      240
agctcatttt catcaatatc atgtggcaag ttaccaacaa aaagttgatg actatctgga
                                                                      300
tagogaatta ttotacggtt gtcagagtca ttotgttoca tatotcotot gcctggtott
                                                                      360
ggtcctctag gaggaaaacc aggtcgttct ctaggtcgtt gttcacgcac acgaggtggc
                                                                      420
tgagattgaa cttctggttt agcttcgact cttggctttg gtggttcttg tggcagagaa
                                                                      480
acaggitetg ceggaggagg agtagtagat tieteeteta gitettetaa gitettetee
                                                                      540
tocactiging gitteagete ticagietti gitteagati eiggeteagg ticaggitea
                                                                      600
tgagaggatt cttccaaagg ctcctctatg ccattagtca cagggtgagc ttcatagtaa
                                                                      660
```

ccactgttag cattttcttg cacaggttca ggagatggtt gnctttcttc ttggtcctct

```
780
totacttcat cttctgattc ttcatcaaag ttcangctca gaatcaccaa acacttnatc
ttcataacga aacatatcat tgtgaacata aaatttattt gg
                                                                   822
     <210> 246
     <211> 482
     <212> DNA
      <213> Homo Sapien
     <400> 246
actatgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt acttttttt ttttttttt
                                                                   120
                                                                   180
aaccaactca atatgtgttt gatgatagtg aattgataaa acccgaagct tttccctgta
aatcttacat ctttgccttt aaagaatggg ttacaaccat cactagatca cagtagtgcc
                                                                   240
taatgaaggt tgagaaccgt aggagagget eteatgetgt aaataatgtt geaggetaat
                                                                   300
                                                                   360
aacctttcat cacttccttt gtgcgcttcc tgccttaagt gacaagtagc aacatggctt
gggtcccctg tgcagcatca gcttatgctg ccacaagtca gtttgcaccc taggtgccca
                                                                   420
                                                                   480
ggagctagta tecttagate tttetatege taacttaatt etettegtta tttatetgae
                                                                   482
     <210> 247
     <211> 816
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
      <222> (1) ... (816)
      \langle 223 \rangle n = A,T,C or G
     <400> 247
gggccttnga gctgctcgan cggccgccat gtgatggata tctgcagaat tcgccctttc
                                                                    60
gagoggoogo cogggoaggt actttaattt tgottgttca aatgatotac acttacattt
                                                                   120
tqcaaatctt ttttttaaat tttttaaatt ttatattttt tttccagcca actcaaggcc
                                                                   180
                                                                   240
gtccacagaa taagacacaa gaaacctcaa gctgtgaggt caatttgtaa ttaaaagaat
                                                                   300
                                                                   360
actaagatta gatgaacaca acactcagaa atactctagg agggctgaaa aagaaggaac
agatgttaac aaaacaaatt aaggctgctg gggaacctga gtccatgtta agcttgggtt
                                                                    420
                                                                   480
gactgtaaag aattittitt titttaatgc aagttagaca tggagttaga gggtcagata
aataacgaag agaattaagt tagcgataga aagatctaag gatactagct cctgggcacc
                                                                   540
                                                                   600
tagggtgcaa actgacttgt ggcagcataa gctgatgctg cacaggggac ccaagccatg
ttgctacttg tcacttaagg caggaagcgc acaaaggaag tgatgaaagg ttattagcct
                                                                   660
                                                                    720
gcaacattat ttacagcatg agagcctctc ctacgggtct caaccttcat taggcactac
tgngatctag tgatggttgt acccattctt taaaggcaaa gatgtaagat ttacagggaa
                                                                   780
                                                                    816
aagcttcggg ttttatcaat cctatcatca acacng
     <210> 248
      <211> 482
      <212> DNA
      <213> Homo Sapien
     <400> 248
                                                                    60
actatgacet gattaegeea agettggtae egagetegga tecaetagta aeggeegeea
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtactctttg ggcattaatg
                                                                    120
                                                                   180
cottototgt aattatatot ogtttttgot tggcagtgac ctacccagta attgcatogt
gtattgccat gaaaggtaaa cacattgtga actgaactta ccaagcagat tctgtgagaa
                                                                    240
                                                                   300
agcactqqtt qqqqctqaac actgttgaca catcattttt attggaagag tattaactgg
tgcctcttct gaaacacacc aacccatatt cctctgctcc cccaaagctg tttctgatcc
                                                                    360
                                                                   420
tgctgggagc aactaactag ttattatgca catctgctcc agacccagct ctttaacttc
480
                                                                    482
```

```
<211> 821
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (821)
      <223> n = A, T, C or G
      <400> 249
ggcctctnag ctgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg
tggtcgcggc cgaggtactt tatgaatttg gggtaggtaa agtttgtatt ttatcttaaa
                                                                      120
catgittict atgatgaaaa ggaacaaaat tgtaaaaaat gaggatctic cctctaaagg
                                                                      180
tttcaaagcg ttagaggaca tgcaattaaa tgttgttaca ccttgaacaa tgagcctctt
                                                                      240
gagtttgtag gaagggcaga ccggctccat taccaacaac tttggggtag aaagcacagc
                                                                      300
totoctottt tacccagcac aaatgcaatc otgattataa aactatttgt gtttotaaat
                                                                     360
acaaccaaag gaaatcttag agaaacataa attagaaacc tcttttatta aggggaaaca
                                                                      420
480
aaaaccatga agttaaagag ctgggtctgg agcagatgtg cataataact agttagttgc
                                                                     540
tcccagcagg atcagaaaca gctttggggg agcagaggaa tatgggttgg tgtgtttcag
                                                                     600
aagaggcacc agttaatact cttccaataa aaatgatgtg tcaacagtgt tcagccccaa
                                                                      660
ccagtgettt etcacagaat etgettggta agtteagtte acaatgtgtt tacettteat
                                                                      720
ggcaatacac gatgcaatta ctgggtaggt cactgccaag caaaaaccga agatntaatt
                                                                     780
tcccgagaag gcattaatgc ccaaagagta cctgccccgg n
                                                                      821
      <210> 250
      <211> 481
      <212> DNA
      <213> Homo Sapien
      <400> 250
actigaccig attacgocaa gottggtaco gagotoggat ocactagtaa oggoogocaq
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caacattgat gttttaatat
                                                                     120
agaatgaagt gottgotaca cagtoaagta aatcaacata tocattacca cacacacttt.
                                                                     180
tettttetga ggageggtaa gagtaettta attttgeagt tattgattaa ttaaaaaaca
                                                                     240
cagtigtitt cagcatticc tagtiacagt agtgcatagg aaattccatt ctaaacaaag
                                                                     300
aagtaattaa tgaaataaca acaccctta acattttaca ttgataggtt acagtttaca
                                                                     360
aggtgctttc acatacatta tttcatttga ttcttacaac aagcagaaaa aacagtggga
                                                                     420
aagatttttt ttttcaggct tacaatgagt attttcaggc caatgggcag ttaacacaaq
                                                                     480
                                                                     481
      <210> 251
      <211> 803
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (803)
      <223> n = A, T, C or G
      <400> 251
gggccttnna gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                      60
gagcggccgc ccggcaggta cactaaatta gaatattttt aaagtatgta acattcccaq
                                                                     120
tttcagccac aatttagcca agaataagat aaaaacttga ataagaagta aqtagcataa
                                                                     180
atcagtattt aacctaaaat tacatatttg aaacagaaga tattatgtta tgctcagtaa
                                                                     240
ataattaaga gatggcattg tgtaagaagg agccctagac tgaaagtcaa gacatctgaa
                                                                     300
tttcaggetg gaaaactatc agtatgatct cagcetcagt tetettgtet gtaaaatgga
                                                                     360
agaactggat taggcagttt gtaagattcc tectaacttt cacagtegat gacaagattg
                                                                     420
totttttato tgatattttg aagggtatat tgotttgaag taagtotcaa taaggcaata
                                                                     480
tattttaggg catctttett ettatetetg acagtgttet taaaattatt tgaatateat
                                                                     540
aagageettg gtgtetgtee taatteettt eteaeteace gatgetgaat acceaqttqa
                                                                     600
```

```
atcaaactgt caacctacca aaaacgatat tgtggcttat gggtattgct gtctcattct
                                                                         660
tggtatattc ttgtgttaac tgcccatggc ctgaaaatac tcattgtaag cctgaaaaaa
                                                                         720
                                                                         780
aaaatctttc ccactggttt ttctgcttgg tgtaagaatc aaatgaaata tggatgtgaa
                                                                         803
agecetigta actgtaceta ten
      <210> 252
      <211> 500
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (500)
      <223> n = A, T, C or G
      <400> 252
                                                                          60
tacnccaann tttqacctqa ttacqccaaq cttggtaccg agctcggatc cactagtaac
ggccgccagt gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac agatgaaaag
                                                                         120
                                                                         180
aagtggtgtt aatgacctac ctgcaccgat aataaagcaa atagaatgat tatatacatt
aagatcagct tgattaaaaa taaattttat atgcaggtaa attgatcatt aaaatgaacc
                                                                         240
cagtttaact cttctcgtgt gttgttttaa ggtaggccac tgaaacgcag agataaaatc
                                                                         300
                                                                         360
anatggggaa aattaaaagc naagaaaaaa attacaaaac aagtgggtta agccatggat
tettaaccaa accetggact aaatgtgeca aagtgetttg aaaattteca etgecagena
                                                                         420
                                                                         480
tggntggtaa agtcantttg gcaaaaaaaa ggtggttnga aaaaaaactn accttttaaa
                                                                         500
ttcccacctt ggatctggcn
      <210> 253
      <211> 831
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(831)
      <223> n = A,T,C or G
      <400> 253
                                                                           60
gnnnnnnnn gnnnnnnnn ntttnnantg ggcctctnna gcatgctcga cggccgccat
gtgatggata totgoagaat togocottto gagoggoogo cogggoaggt actatatttg
tgagoctagg gtaggggoac tgotgoaact totgotttoa toccatgoot catcaatgag
                                                                         120
                                                                         180
gaaagggaac aaagtgtata aaactgccac aattgtattt taattttgag gtatgatatt
                                                                          240
                                                                         300
ttcagatatt tcataatttc taaccictgt tctctcagta aacagaatgt ctgatcgatc
atgcagatac aatgttggta tttgagaggt tagtttttt tectacaett ttttttgcca
                                                                         360
                                                                         420
actgacttaa caacattgct gtcaggtgga aatttcaagc acttttgcac atttagttca
gtgtttgttg agaatccatg gcttaaccca cttgttttgc tattttttc tttgctttta
                                                                         480
                                                                         540
attttcccca totgatttta tototgcgtt toagtggcct accttaaaac aacacacgag
                                                                          600
aagagttaaa ctgggttcat tttaatgatc aatttacctg catataaaat ttattttaa
                                                                          660
tcaagctgat cttaatgtat ataatcattc tatttgcttt attatcggtg caggtaggtc
attaacacca cttcttttca tctgtacctc ggccgcgacc acgctaaggg cgaattccag
                                                                          720
                                                                          780
cacactggcg qcccqttact agtggatccg agctcggtac caagcttggc gtaatcatgg
gtcatagetg tttcctgtgt gaaattggta tccgntcaca attcccacan g
                                                                          831
      <210> 254
      <211> 514
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (514)
      <223> n = A,T,C or G
```

```
<400> 254
                                                                        60
cacttgacnt gategecaac ttggtacega entegnntee attattaceg gacacttgac
tgatacgcca nettggtace gacteggace actagtaacg gnegecagtg tgetggaatt
                                                                       120
cgcccttgag cggccgcccg ggcaggtacc tctaatgcag gctaataaat ttaagctaat
                                                                       180
tatttatgct acctgtgctg tggtggtttc ctatcagcag ccaaatataa cctcacagtt
                                                                       240
                                                                       300
gttttgctgt ttttgctttc acaaaagagc tattaaccaa cttaaaaaatg ttttttgatt
gaaggatgct taggggatga gaggatatca acaatataag cccatgccaa atccccattt
                                                                       360
                                                                       420
cttatcatta aaactgacct gacattaaag caatgcttaa ttttttacca taagagtgaa
attitgagat tataatttta aagtgtaaaa tatttacact taaattacac ttataatttt
                                                                       480
                                                                       514
aaagtgtata atatttacac agattaaaat aaaa
      <210> 255
      <211> 830
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (830)
      <223> n = A,T,C or G
      <400> 255
nnnnngnen nnnnnnannn nnnnnnnant gggeetetnn agentgeteg aeggeegeea
                                                                        60
                                                                       120
tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta cttttttttt
tittccagat gaaqtottgc totgttgccc aggotggagc gcagtggcac aatotcagct
                                                                       180
cactgaaacc ttcgcccct gggctcaagc tagccagtct tttagtaaac atttagtcaa
                                                                       240
                                                                       300
caaatctgca attataacgg aggtttgatt tttgttgttt ttgtttgttt ttaagtcact
ctqtqtttqt aatatcaatt tacttttcaa gtttagaatg ttttgcttca ttgtttccca
                                                                       360
tatttattt taatotgtgt aaatattata cactttaaaa ttataagtgt aatttaagtg
                                                                       420
taaatatttt acactttaaa attataatct caaaatttca ctcttatggt aaaaaaattaa
                                                                       480
                                                                       540
gcattgcttt aatgtcaggt cagttttaat gataagaaat ggggatttgg catgggctta
tattgitgat atceteteat cecetaagea teetteaate aaaaaacatt tttaagttgg
                                                                       600
ttaatagete tittgtgaaa geaaaaacag caaaacaact gtgaggttat atttggetge
                                                                       660
tgataggaaa ccaccacagc acaggtagca taaataatta gcttaaattt attagcctgc
                                                                       720
attagaggta cctgcccggg cnggccgtca agggcgaatt ccagcacact ggcggccgtt
                                                                       780
ctagtggatc cgactcggtc cagcttgcgt aatcatggtc atagctgttg
                                                                       830
      <210> 256
      <211> 524
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(524)
      <223> n = A,T,C or G
      <400> 256
connunna ncntnanach nnnnnntngn nnnnnagnnn nnnnnnnnn nnnnnnnnan
                                                                        60
                                                                       120
actatgactg attacgccan cttggtaccg actcggatcc actagtaacg gccgccagtg
                                                                       180
tgctggaatt cgcccttagc gtggtcgcgg ccgaggtaca ttacttggtg ttaacattgt
tggcagtggt agcccctttt cagaaagcaa cttgctgtaa gtcagggtgt ccgttccaac
                                                                       240
cttcagccag tgaaaaggta gtaacaaatg gtaaacaaga gaatgattgt ttaaacctat
                                                                       300
ctgtggacac ttaatgcaac tgtttaaaaa tgataatcac gagttatgta gcaacgtgga
                                                                       360
aatatattta cagaacatta agtggagaaa gcaggacacg aaagtatatt tatactacag
                                                                       420
ttataactca acagttcatt tatatgctgn tcatttaaca gttcatttaa acagttcatt
                                                                       480
ataactgttt aaaaatatat atgcttatag tcaaaagctg ttgg
                                                                       524
      <210> 257
      <211> 814
      <212> DNA
```

<213> Homo Sapien

```
<220>
      <221> misc_feature
      <222> (1) . . . (814)
      \langle 223 \rangle n = A,T,C or G
      <400> 257
ntgggcctct agaagcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc
                                                                         60
ccttgagcgg ccgcccgggc aggtactttt ttttttttt ttttttttt tttgatattt
                                                                        120
attittaact ttattittat tgntgacact attacagata gaatgaccac aaccatatta
                                                                        180
acaaaccaaa aacctgtgca cagaaacaag atgaagaaaa tatatcaaga tgttaaccac
                                                                        240
actetttgga tggtgaaaac atgggtgagt ttetetteta catttetgta aetteaaagt
                                                                        300
ttctataatg aacacatttc atatataatg gaaatatatg tagtaaaggt ggactaccaa
                                                                        360
aacactagaa tgatgacctt tcaaggaaac cgaaacaaaa taaccataat cccacaacaa
                                                                        420
ccacacaact atttettget ttteatettt etteecatet ttgacattta tgeataetta
                                                                        480
toactaacac cotaataato acagactagt gcacagatca agatgttaac agttaattgt
                                                                        540
tgttgggtgt tgggaatatg tgtgaatttt ctttactgaa tttccaaagt tttgtatgag
                                                                        600
tatgtattat atttgtaatg gaaaatacat acataaaatt tattaccaaa acaccaaaga
                                                                        660
ttatttaagg aatttgagac aaaatattta accaaattcc cacaatgaca acactatttt
                                                                        720
agttattttc cacatetttt catttaaaga etttatgeac acatatttaa cactgntate
                                                                        780
acaagcgtgt gcactgnaac aggattgagg aaan
                                                                        814
      <210> 258
      <211> 474
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (474)
      <223> n = A, T, C \text{ or } G
      <400> 258
acagetatga cetgattacg ecaagettgg tacegagete ggatecacta gtaacggeeg
ccagtgtgct ggaattcgcc cttagcgtgg tcgcggncga ngtacattat ttggaggact
                                                                        120
taaaatctgn atgtggacat ggtcccaact tantgtccgt taactagtta tccaaattgt
                                                                        180
aanagctaca gaaagcccag ttgaggggta antgtgcctg gntcacacag cctgcaccct
                                                                        240
gtcacctcgg caatgagcca gtgtggggca ctggggactt ctaacccttg gattgctctt
                                                                        300
tttgacctgt gcataccttc taattgnaaa atatatttca gaccgagagt acntgcccgg
                                                                        360
geggeenete aaaagggega attetgeaaa tateeateae atggeggeeg ntngageatg
                                                                        420
catchaggag ggencaatte ecctatagng agtngtatta caatteactg gene
                                                                        474
      <210> 259
      <211> 809
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(809)
      <223> n = A, T, C or G
      <400> 259
ntgggcccnt agangcatgc tcgncggccg ccatgtgatg gatatctgca gaattcgccc
                                                                         60
tttcgagcgg ccgcccgggc aggtactcac ggtctgaaat atattttaca attagaaggt
                                                                        120
atgcacaggt caaaaagagc aatccaaggg ttagaagtcc ccagtgcccc acactggctc
                                                                        180
attgccgagg tgacagggtg caggctgtgt gagccaggca cacttacccc tcaactgggc
                                                                        240
ttetgtaget ttacaattig gataactagt tageggacag tagttgggac atgtcacata
                                                                        300
cagatttgag tectecaata atgtaceteg geogegacea egetaaggge gaattecage
                                                                        360
acactggcgg cogttactag tggatccgag ctcggtacca agcttggcgt aatcatggtc
                                                                        420
atagetgttt cetgtgtgaa attgttatee geteacaatt ceacacaaca taegageegg
                                                                        480
aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat taattgcgtt
                                                                        540
```

```
600
gegeteactg eccgettice agtegggaaa ectgtegtge eagetgeatt aatgaategg
ccaacgegeg gggagaggeg gtttgegtat tgggegetet teegetteet egeteactga
                                                                     660
                                                                     720
ctcgctgcgc tcggtcgttc ggctgcggcg agcggtatca gctactcaaa ggcggtaata
ccgttatnca cagaatcang ggatacgcag gaaagaacat gtgagcaaaa ngccacaaaa
                                                                     780
                                                                     809
ggccaggaac cgtaaaaagg ccgcgtttg
      <210> 260
      <211> 713
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(713)
      <223> n = A, T, C or G
      <400> 260
ctetttaaac gecagetega nteegannte tateentgae aannnnngtn eeggnetgga
                                                                      60
                                                                     120
attognoctt togagoggoo geoogggoag gtacttgagt toatgggoat etetecogoo
                                                                     180
gcctctcagc ctatctgcac catgtctcac acgttcagtt gcagctctta ccgttttgaa
ggcgcacgtg ggcaagaagt cctgggcagc acaagaaagt caatcacgtt gagacagaga
                                                                     240
                                                                     300
gagcaggaga ggaagtgggc cccagtagaa gtgggcgaga gagcgttggg tgggaacgtg
360
                                                                     420
gaaagagana ganagaggga aaganaaaga gacagagaaa agaaactatt gttggttaaa
atgccagegg aaagtccatg ggggtgaatg agtccggcaa tggncangga gttagcagct
                                                                     480
tggcgtagtg tctttcactg ntttggctgt cttgagaata gcattcnacn ccgactgtgg
                                                                     540
ttccccanca gactttagnc ngttgcccng ncttgaattg ccggaccaag gttaacatag
                                                                     600
                                                                      660
getttteggn tetnaatatt tttggggetn gaatantegg aacentttgg getgggecat
ttaccegntn ennentgggt nnnacatttt tnetggntaa teeegeettt tng
                                                                     713
      <210> 261
      <211> 722
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(722)
      <223> n = A,T,C or G
      <400> 261
                                                                       60
acgcanttag gtaccgaget eggateeeta gtaacggeeg eeagtgtget ggaattegee
cttagcgtgg tcgcggcccg aggtactect cagccatgcc gaaggteete ttccgggact
                                                                      120
                                                                      180
cttcgatggc agacagcagg gcattgtcct tctcattctt caggaagccc tgcagctctt
aaatttaagg agttacagaa cggtcgatgc tgncgatcac tgcagctctt ccaaaccttc
                                                                      240
ttatatgaga tgagctctgt cggaaccagt gctcaagttt ttcccacccc aaactgcctg
                                                                      300
aattgaggga tgggggtggg gagaaggaca gagagaagag aaaaagagag aaagaagana
                                                                      360
                                                                      420
aaggaaaaga acaacccctc tgcaagtgct gatgtgactg aagcactaaa gagtcaaatt
aaacaatgaa gattgcaggg tccctttaaa aagggtgcac tgcagncccc ngagcacanc
                                                                      480
                                                                      540
natoccatto gnttgngcog ctncacanat totagagaan tonnocatca tgtttgaaan
                                                                      600
geneaaaant gatgggannt eeegnntaeg eggggaetta attetgeett gggaaateaa
                                                                      660
ggaanacttt gnttggange ggcanttnaa anntggeett aagaangnng tgngaatttg
ttggccaaac nantngaaag gtnttccggc cgatnggtcc ctgattttta aggattnnaa
                                                                      720
                                                                      722
ng
      <210> 262
      <211> 705
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
```

```
<222> (1)...(705)
      \langle 223 \rangle n = A,T,C or G
      <400> 262
acgetttaaa enecagettg gtacegaget eggateeeta gtaaeggeeg eeagtgtget
                                                                        60
ggaattegee ettgeegeee gggeaggtae etgatatttt gaaettttaa ttgetateaa
                                                                        120
atttcagctc tggttttatg cattgttgta atttctcagt gaatcccagt gcttctttcc
                                                                       180
ttcttgaaaa atgccatttc gcccaggcgc ggtggctcat gcttgtaatc ccagcacttt
                                                                       240
ggtaggccga ggtgggtgga tcagctgagg tctgtagttc aagaccagcc tggctaacat
                                                                        300
gatgaaaccc tgtctctacc aaaaatacaa aaaaaaacta gccaggcatg gtgttgtatg
                                                                       360
cctgtaatcc cagctactca ggaggctgag acaggagaat cgcttgaacc tgggaggtgg
                                                                        420
aggttgcagt gagccaagat cgcgccactg cactncaacc tgggcaacag agtgagactc
                                                                       480
catctcaaaa naannaaaaa ggaaaatgcc atttcttggg cccantgcca atatgcacca
                                                                       540
agaatgttng taggaactac tttggtctgg ctgcagaagt tcttaatcta gcattaaaaa
                                                                       600
tccaacggtt gatttgatct cttaaaatgg ttttcnnant ttgganctga aattgagnat
                                                                       660
                                                                       705
aaattacctt tgcnnntnaa ttcaaaangt tnaacctnnt tnann
      <210> 263
      <211> 656
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(656)
      <223> n = A, T, C or G
      <400> 263
acnogottgt accgagotog gatocotagt aacggoogoo agtgtgotgg aattogooot
                                                                        60
                                                                       120
tagegtegte geggeeegag gtacegeggg ggagaaegee agggagetgt gagagtgtge
agtegegtte etgetgteeg gacaettttt teetetaetg agaeteatet ggtagateeg
                                                                       180
caggocagte eteccagggg etgaagttgt gaaatatggg ttttetaaga agattaatet
                                                                       240
atoggogtag accaatgato tatgtagaat ottotgagga gtocagtgat gagcaacotg
                                                                       300
acqaaqtgga atcaccaact caaagtcagg attctacacc tgctgaagag agagaggatg
                                                                       360
agggagcate tgeageteaa gggcaggage etgaagetga tagecaggaa etggtteage
                                                                       420
caaagactgg gtgtgagctt ggagatggtc ctgataccaa gagggtntgc ctgcgaaatg
                                                                       480
aagagcagat gaaactgccc gnagaaggcc agacctgann cgatagcagg acagttcccc
                                                                       540
gaaactggtg tagcgcgaat gtctgtgtca gagtggcctg ccaatcaagg agtgaacct
                                                                       600
gggaataagc atccagetta aaganneeet ganggttagt gtetngtgaa ttneet
                                                                       656
      <210> 264
      <211> 752
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(752)
      <223> n = A, T, C or G
      <400> 264
ggnttgaang tatacgactc nctanggcga attgggccct ctagatgcat gctcgagcgg
cccgccagtg tgatggatat ctgcagaatt cgcccttagc gtggtcgcgg ccgaggtacc
                                                                       120
tttgataatt cotagacoto tattttoatt otgtgtatta atgtgaataa cagatggata
ttttaatatt taaggcagat ggtaaacttt cctataggtc ttgtgagact tcgtcttata
                                                                       240
ggctgaacac cattcacaaa atgtaataat gcttcattcc ttcaggttga ggtaaagaac
                                                                       300
ttgagcaact ggattagcaa agctgcaaag aatgaaatgt ggcctaagat gtaattatgt
                                                                       360
tetetgeeet teetttigge caggitagit tigeaettga cacaatggaa aataggeeat
                                                                       420
asageetgaa aataaaatgt tetaaaceee aateteacag caetttagta ggettitteac
                                                                       480
```

taggcatctt taaagtattt tcaacaaaat actaattaag ctaccacttc aaaagagctt

caaqqaaaaq ctctqctttc ttataaaatc tttttqaqac aqagtttccq ctcttqtcaq

cacaggotgg agtgcaatgg cogtgatoto gactnaaccg naaccttogg cotgotgggt

540

600

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```
tcaagtgatt ctctagncct caagettctg agtaggttgg gattacaggc gcccggncaa
                                                                       720
                                                                       752
ccacacctgg gctaaatttt ggatttctan gn
      <210> 265
      <211> 747
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(747)
      <223> n = A,T,C or G
      <400> 265
                                                                        60
gngntttene nnngegetet anageatget egageggeeg eeagtgtgat ggatatetge
agaattogco ottagogtgg togoggooga ggtacotttg atnattocta gacototatt
                                                                       120
ttcattctgt gtattaatgt gaataacaga tggatattgt aatatttaag gcagatggta
                                                                       180
aacttteeta taggtettgt gagaetnent ettatagget gaacaccatt nacnanntgt
                                                                       240
antaatgett natteettea ggengaggtn nanaacttga geacetggat tageageage
                                                                       300
tgcgaagaat gaaatgcngc ctaacatgta attatgnatc tctgnccttc ctttgggcca
                                                                       360
gggtagtnat genetagaca cantggatga tangecatna ageetgannn tgnaatgate
                                                                       420
taaacccnaa tctnncagca ctttattagg ctantcacta ggcatcttta agagtnggtt
                                                                       480
ccenttaata ctagneaace nnccacteca aaananette aagganaage tntgntntnt
                                                                       540
tanaaaatct tttcgnnaca cantttnacn cttggcgcnc angctggant gcaatggccg
                                                                       600
tgatctctac tcacccgaan cctcngactg ctgagttcaa gtgattgtct gnccttanct
                                                                       660
ctccgggacc angnttnggg attancaagc ctcgcgggca annacaggtg nctaattgnt
                                                                       720
                                                                       747
tqcattnqcn taaaatnagg acaccng
      <210> 266
      <211> 738
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (738)
      <223> n = A,T,C or G
      <400> 266
cgnnnntgaa ggntacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                        60
cggccgccag tgtgatggat atctgcagaa ttcgcccttt cgagcggccg cccgggcagg
                                                                       120
tacagetgaa gtttgataac aaagaaatat atataagaca aaaatagaca agagttaaca
                                                                       180
                                                                       240
ataaaaacac aactatctqt tqacataaca tatggaaact ttttgtcaga aagctacatc
ttcttaatct gattgtccaa atcattaaaa tatggatgat tcagtgccat tttgccagaa
                                                                       300
                                                                       360
atteqtttgg ctggateata gattaacatt ttcgagagca aatccaagce attttcatce
aagtttttga catgggatgc taggettetg gttteeattt gggaaatgta ttettatagt
                                                                       420
                                                                       480
cctgtaaaga ttccacttct ggccacactt cattattggg agtgcccaaa gctctgaaat
cctgaagagt tgatcaattc tgaatcccat ggaaaagtgg ttcttagtgc tagtcaacaa
                                                                       540
                                                                       600
atainggage ctatacteca aaggicacti ggagitgagi naiggagetg accecageat
acttttggaa aactggacca agtggttgca ccaccnttaa aaaatttaaa accggnngta
                                                                       660
ttttaaataa ggtggaagaa accttttcct tttttattta aggaattcac ttagcnctta
                                                                       720
                                                                       738
ctaaattcat ggtggggg
      <210> 267
      <211> 731
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(731)
      <223> n = A,T,C or G
```

```
<400> 267
                                                                         60
gngnntttgn aagggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct
gcagaattcg ccctttcgag cggccgcccg ggcaggtaca gctgaagttt gataacaaag
                                                                        120
aaatatatat aagacaaaaa tagacaagag ttaacaataa aaacacaact atctgttgac
                                                                        180
ataacatatg gaaacttttt gtcagaaagc tacatcttct taatctgatt gtccaaatca
                                                                        240
ttaaaaatatg gatgattcag tgccattttg ccagaaattc gtttggctgg atcatagatt
                                                                        300
aacattttcg agagcaaatc caagccattt tcatccaagt ttttgacatg ggatgctagg
                                                                        360
cttcctggtt tccatttggg aaatgtattc ttatagtcct gtaaagattc cacttctggc
                                                                        420
cacacttcat tattgggagt gcccaaagct ctgaaaatcc tgaagagttg atcaatttct
                                                                        480
gaatccccat ggaaaagtgg tttcttagtt gctagttcag caaatatggt gcctatactc
                                                                        540
caaatgtcaa ctggagttga gtaatgagct gaccccagca atacttctgg agatctgtca
                                                                        600
agtggttgca acaccattaa aaaatataaa agcagtagtt atattaaaat aatgttgaag
                                                                        660
aaaacatatn cotatatatt tnaaggaatt toactaagca ctactaaatt toatgttgtt
                                                                        720
gggangngtt a
      <210> 268
      <211> 745
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(745)
      \langle 223 \rangle n \approx A,T,C or G
      <400> 268
gnnnnnntaa agnanachte actatannge gaattgggee etetagatge atgetegage
                                                                         60
ggccgccagt gtgatggata tctgcagaat tcgccctttg agcggccgcc cgggcaggta
                                                                        120
cttcccacac aggtttgttg taaaaattaa gtgagctaat gtgtataaaa tacttcagtg
                                                                        180
ctgaataaat gttggctttt attatatatt gttaaaaaac aacacaggct gggtatgata
                                                                        240
gctcacgcct ataatcctag catttaggga ggccaaggca ggaggattgc ttgagtccag
                                                                        300
gggtttgaga ccagcctggg caacatagtg agaccctatc tctacaaaat aaaataaatt
                                                                        360
agttgggcat ggtggcacat gcctgtagtc ccagctactc aggaggctga ggtgggagga
                                                                        420
ttgcttgagc ccaggaggta gaggttgcag tgagctgtga tcacaccact gcactccagc
                                                                        480
gteggtgacg gagtgagaac ctateteaaa caaacaaaca aaaaaaceca aaacaaacaa
                                                                        540
aaaaatccag taaagacaga gattcctaaa attctacaat tctaaaaacc agtagggctc
                                                                        600
actgaatata agagaggcaa gcaaaaaatt actccaatat tttgagtttg ggtaacctgg
                                                                        660
aatatgggtc atttattgag taaatagtta ctgagtccta actatgtgcc acacactggg
                                                                        720
ttaacacttg gcactgtctc ttatg
      <210> 269
      <211> 730
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(730)
      \langle 223 \rangle n = A,T,C or G
      <400> 269
gntnnnnttt tnaanceggt cetnntgcat getegagegg eeegecagtg tgatggatat
                                                                         60
etgeagaatt egecetttga geggeegeee gggeaggtac tteecacaca ggtttgttgt
                                                                        120
aaaaattaag tgagctaatg tgtataaaat acttcagtgc tgaataaatg ttggctttta
                                                                        180
ttatatattg ttaaaaaaca acacaggctg ggtatgatag ctcacgccta taatcctagc
                                                                        240
atttagggag gccaaggcag gaggattgct tgagtccagg ggtttgagac cagcctgggc
                                                                        300
aacatagtga gaccctatct ctacaaaata aaataaatta gttgggcatg gtggcacatg
                                                                        360
cctgtagtcc cagctactca ggaggctgag gtgggaggat tgcttgagcc caggaggtag
                                                                        420
aggitgcagt gagcigtgat cacaccactg cactccagcg teggigacgg agitgagaacc
                                                                        480
tateteaaac aaacaaacaa aaaaacecaa aacaaacaaa aaaatecagt aaagacagag
                                                                        540
attoctaaaa ttotacaatt ctaaaaacca gtagggotca ctgaatataa gagaggcaag
                                                                        600
```

```
caaaaaatta ctccaatatt ttgagtttgg gtaacctgga atatggtcat tattgagtna
                                                                        660
atagttactg agtectacta tgtgeecaca etgggtnaac aettgeactg tetettatga
                                                                        720
aatcttccan
                                                                        730
      <210> 270
      <211> 713
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(713)
      \langle 223 \rangle n = A,T,C or G
      <400> 270
aattgggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt
                                                                         60
equeettteq ageqqeeqee eqqqeaqqta caaaccaata geteetatte tggaaggttt
                                                                        120
tettettatt taaaaaaaat teaaacaagg ttaaaagtea ageaagaagg gaagagagaa
                                                                        180
actgggttct gagaaaaaa tgtgccagta taaaataaac tcctaaatgc gtgcttgtca
                                                                        240
tectetagtt ttttttttaa gttgaattte ttttecaetg taaettaaga tttgagattg
                                                                        300
aggtttgcgg tccagaacat accetcagca gatacagtga ctaactggaa agtgcagttg
                                                                        360
ttcaaggtct gtcatgctca atcacctaaa gctataattt gnttgatata ttaagcatgt
                                                                        420
agacctagtg cagcatggga gccactcagg aagtttatgc aattaataaa ctttcagcat
                                                                        480
aatttactat gaagtatgca gaatttcacc ctcttctcca cacttaacat ttagttgtat
                                                                        540
atgtgaactc tcctttctta attggggaat gtagcattat atagaatgtt gntaaaggta
                                                                        600
attitaatce tittigacat taacettitt tittitiggn aaaccaagig atcigcetti
                                                                        660
cagcaactgg cttattttgg gtctttgaaa ctgngatttt tatttcattn gnc
                                                                        713
      <210> 271
      <211> 702
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (702)
      <223> n = A,T,C \text{ or } G
      <400> 271
gnetegageg geogecagtg tgatggatat etgeagaatt egecettteg ageggeegee
                                                                         60
cgggcaggta caaaccaata gctcctattc tggaaggttt tctttttatt taaaaaaaat
                                                                        120
tcaaacaagg ttaaaagtca agcaagaagg gaagagagaa actgggttct gagaaaaaaa
                                                                        180
tgtgccagta taaaataaac tcctaaatgc gtgcttgtca tcctctagtt ttttttttaa
                                                                        240
gttgaatttc ttttccactg taacttaaga tttgagattg aggtttgcgg tccagaacat
                                                                        300
                                                                        360
acceteagea gatacagtga etaactggaa agtgcagttg ttcaaggtet gtcatgetca
atcaccctaa agctataatt tgtttgatat attaagcatg tagacctagt gcagcatggg
                                                                        420
agccactcag gaagtttatg caattaataa actttcagca taatttacta tgaagtatgc
                                                                        480
agaatttcac cctcttctcc acacttaaca tttaqttqta tatqtqaact ctcctttctt
                                                                        540
aattggggaa tgtncattat atagaatgtt ggtaaaggta attttaatcc tttttgacat
                                                                        600
taaccttttt tttttttgg taaaccaagt gatctgnctt ttaacaactg gcttatttgg
                                                                        660
gtcctttgna actgggaatt ttatttcatt tgnncctcgg cc
                                                                        702
      <210> 272
      <211> 736
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (736)
      <223> n = A, T, C or G
```

```
<400> 272
gnnntttgan nnnnnnnnn ntatagggeg aattgggeec tetagatgea tgetegageg
                                                                            60
geogecagig igaiggatai eigeagaati egecettieg ageggeegee egggeaggia
                                                                           120
ctttttttta ttcctcagtt aaaacatgcc tgttattctt tttgtaatac ttaagcaatt
                                                                           180
ttattttaaa gatatactac ttagttcatc cgtctccact tgtttttttt ttttgnnant
                                                                           240
anngggttgg ttccnttaan nccacnggtt ttaaanccat nntngtcnnn ggnaaattan
                                                                           300
nnttantnat taaanntnnn tnncntngca aanntccagn taaaatttta gtggggggg
                                                                           360
ggggttantt acnggnaann aattaantno nggnnaatan tttaannntt ggnaangnac
                                                                           420
nntngnnnta annattattt nnttnanntt tttaataann annaatttta ntttgnaacn
                                                                           480
ntggtnttta ntaannggaa annccaatta attggttggt tgnatttttc ccagnaaccn
                                                                           540
nteentggge nggaacnnee ntangggnaa nttenagnnn ntngngggen gtnennaggg
                                                                           600
nnnccaacht nggcccanch tggnggaann nnnggchnna nnggttccch ggggnaaatg
                                                                           660
gtattengtt enaateenne aantteeaae eeggagnett aangggtaan neengggggg
                                                                           720
chtanngagn gcctaa
                                                                           736
       <210> 273
       <211> 715
       <212> DNA
       <213> Homo Sapien
      <220>
       <221> misc feature
      <222> (1) ... (715)
      <223> n = A,T,C \text{ or } G
      <400> 273
gngntttnac ganngnnnnn nnnnnctgct cgagcggccg ccagtgtgat ggatatctgc
                                                                            60
agaattegee etttegageg geegeeeggg eaggtaettt titttattee teagttaaaa
                                                                           120
catgootgtt attottttg taatacttaa gcaattttat tttaaagata tactacttag
                                                                           180
ttcatcegte tccacttgtt ttttttttt gnnantanng ggttggttce nttaannena cnggtnttaa anccannnnn gtennnggna aattannntt antenntaaa nntnnnnnne
                                                                           240
                                                                           300
ntggnaannn tccagntaaa atttnagtgg ggggggggg ttaattancg gnaannantt
                                                                           360
aantneegga naatanttta annnttggna angnaenttn gnnntaagna ttatttnntt
                                                                           420
cannttttta atnantanna attttaattt gnaancntgg nntttannaa nnggaaannc
                                                                           480
caattaattg gttggttgna tttttcccag naaccnnncc ntgggcngga acancentaa
                                                                           540
ggncaaatcn accaantgnc ggccgtacna aggggatcca acntnggccc ancctggnng
                                                                           600
naataatggc cnaantggtt nccngggnna aatggnattc cgttcaaatt ccnccanntc
                                                                           660
cnacceggag cettaagngg taaacetggg ggeetaangg ggggeetaac teaat
                                                                           715
      <210> 274
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A,T,C or G
      <400> 274
gnnnntnnan gnntacgact cactataggg cgaattgggc cctctagatg catgctcgag
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                           120
ccaggtgggc tgacgcacat cccctaaaca ttctggatct cttactcatc qtgaaagqca
                                                                           180
gacgetetaa gtetaaagte tagggtagga gttteeatte tttggaaaac caaagatggt
                                                                           240
tactottott aatgaaactg agaagaaggt atotacagaa aacactgaat ttaaacaaat
                                                                           300
tatgacettg tttgttgaag ecateaagga eecaagatat ateaaagaae aacatetetg
                                                                          360
tattggccta caggttcaga gtgttttgag gtctgtttaa gcactaatag gattttaggc cagcatccag tcagaagaga tagttcacag actcagagtt ggaaacagat taaaaaaaaa
                                                                          420
                                                                          480
aagatgtcaa catagaaaat gatgatagag tttagttaaa aaaattcaca cataaaatta
                                                                          540
cagttaaaaa aattcacaca taaaatagag tgtttgcata gcaagacatt attgcccttc
                                                                          600
agcotggcag aaaaacataa actoaggtgt atattttata ataaacattg nattgaatgo
                                                                           660
taagaatgat acactggtga acatctnctg aatggttgcc ttcttgtaaa tcataccaat
                                                                          720
```

tggttagaca attgaaattn ccagct

```
<210> 275
      <211> 725
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(725)
      <223> n = A,T,C or G
      <400> 275
gnnnttaann cottocctnt anatgcatgc togageggcc gccagtgtga tggatatctg
                                                                         60
cagaattege cettagegtg gtegeggeeg aggtaceagg tgggetgaeg cacatecect
                                                                        120
aaacattctg gatctcttac tcatcgtgaa aggcagacgc tctaagtcta aagtctaggg
                                                                        180
taggagtttc cattetttgg aaaaccaaag atggttactc ttettaatga aactgagaag
                                                                        240
aaggtatcta cagaaaacac tgaatttaaa caaattatga ccttgtttgt tgaagccatc
                                                                        300
aaggacccaa gatatatcaa agaacaacat ctctgtattg gcctacaggt tcagagtgtt
                                                                        360
ttgaggtctg tttaagcact aataggattt taggccagca tccagtcaga agagatagtt
                                                                        420
cacagactca gagttggaaa cagattaaaa aaaaaaagat gtcaacatag aaaatgatga
                                                                        480
tagaqtttag ttaaaaaaat tcacacataa aattacagtt aaaaaaattc acacataaaa
                                                                       540
tagagtgttt gcatagcaag acattattgc ccttcagcct ggcagaaaaa cataaactca
                                                                        600
ggtgtatatt ttataataaa cattgnattg aatgctaaga atgatcactg ttgaacatct
                                                                        660
cctgaatggt ttgccttctt gtaaatcata ccaatggtta gacaattgaa attccagetc
                                                                        720
                                                                        725
tttct
      <210> 276
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A, T, C or G
      <400> 276
nnnnntgann gtatacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                        60
eggeegeeag tgtgatggat atetgeagaa ttegeeetta gegtggtege ggeegaggta
                                                                        120
                                                                       180
cttctgctgt ggtaactcaa gtaaccctcc gtttaaacca ggacagacct atgctgacaa
ccatttttat cactcttagt ggtattttct ttctttgaac atgaatgcat atttctgctc
                                                                       240
tttaatggcc tttggtattt aagattacat tcagctagtc tccttattgc atgttgtttt
                                                                       300
attocagtoc caccageact cagaacaaca gcaagtgtgt gtaacagegg gcacaggege
                                                                        360
tccagacgga aggacetcae tgacgcagtt agetcaggta gagettattt etgtgttcaa
                                                                        420
ttttcttgtc atgagaagca gtgaccccta agaatttgta tecetttgtt cacttctttg
                                                                        480
ttttaggaga gaaacttcta aagcattact ctaaaaggtg atagagacag agacgggcca
                                                                       540
ttttcatcta ccccttgcag agttaagttt tattacagta agttgtgagg tgagacatga
                                                                       600
tggctgcagg cacatagtca agatctaccc ttctaaggaa ataaaacggg gaaaagtggt
                                                                       660
tgaatgtcca atatagaaaa tttaatcacc actttcccaa aaaagaataa atggaggact
                                                                       720
ncattggaat tatggaaatg aaan
                                                                        744
      <210> 277
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (724)
      \langle 223 \rangle n = A,T,C or G
```

```
<400> 277
gnnnnttneg antgggeeet etagatgeat getegagegg eegeeagtgt gatggatate
                                                                         60
tgcagaattc gcccttagcg tggtcgcggc cgaggtactt ctgctgtggt aactcaagta
                                                                        120
                                                                        180
accetecgtt taaaccagga cagacctatg etgacaacca tttttatcac tettagtggt
                                                                        240
attttctttc tttgaacatg aatgcatatt tctgctcttt aatggccttt ggtatttaag
                                                                       300
attacattca gotagtotoc ttattgoatg ttgttttatt ccagtoccac cagcactcag
aacaacagca agtgtgtgta acagcgggca caggcgctcc agacggaagg acctcactga
                                                                        360
cgcagttagc tcaggtagag cttatttctg tgttcaattt tcttgtcatg agaagcagtg
                                                                        420
                                                                        480
acccctaaga atttgtatcc ctttgttcac ttctttgttt taggagagaa acttctaaag
cattacteta aaaggtgata gagacagaga egggeeattt teatetacee ettgeagagt
                                                                        540
taagttttat tacagtaagt tgtgaggtga gacatgatgg ctgcaggcac atagtcaaga
                                                                        600
                                                                        660
tctacccttc taaggaaata aaacggggaa aagtggttga atgtccaata tagaaaattt
aatcaccact ttccaaaaaa gaataaatgg aggactncat tgtaattatg gaaatgaaat
                                                                        720
                                                                        724
ttgg
      <210> 278
      <211> 748
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(748)
      \langle 223 \rangle n = A,T,C or G
      <400> 278
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cggcccgcca gtgtgatgga tatctgcaga attcgccctt tcgagcggcc gcccgggcag
                                                                        120
                                                                        180
qtacagctgc ccaagggcgt tcgtaacggg aatgccgaag cgtgtgaaaa agggagcggt
ggcggaagac ggggatgagc tcaggacaga gccagaggcc aagaagagta agacggccgc
                                                                        240
                                                                        300
aaagaaaaat gacaaagagg cagcaggaga gggcccagcc ctgtatgagg accccccaga
tragaaaacc tracccagtg graaacctgr caractraag atrtgetett ggaatgtgga
                                                                        360
                                                                        420
tqqqcttcqa qcctqqatta agaagaaagg attagattgg gtaaaggaag aagccccaga
tatactgtgc cttcaagaga ccaaatgttc agagaacaaa ctaccagctg aacttcagga
                                                                        480
                                                                        540
qctqcctqqa ctctctcatc aatactggtc agctccttcg gacaaggaag ggtactagca
actaaccatg gttaaaaggt cttagtcaga attacaaaaa caaaacattt agagtaatac
                                                                        600
                                                                        660
ttatgaatac aagcataatt ggtteetege ettetacaaa taaccatett gaaaatgata
aaagcaggtt tcaactgtgg tcttctctca ttgagaaggt gcagatacac atgggtgatc
                                                                        720
                                                                        748
tactgattta ccttcttgaa agtnctcg
      <210> 279
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (727)
      \langle 223 \rangle n = A,T,C or G
      <400> 279
gnnnnttega ntgggeeete tngngeatge tegageggea egeeagtgtg atggatatet
gcagaattcg ccctttcgag cggccgcccg ggcaggtaca gctgcccaag ggcgttcgta
                                                                        120
acgggaatgc cgaagcgtgt gaaaaaggga gcggtggcgg aagacgggga tgagctcagg
                                                                        180
acagagecag aggecaagaa gagtaagaeg geegeaaaga aaaatgacaa agaggeagea
                                                                        240
ggagagggcc cagccctgta tgaggacccc ccagatcaga aaacctcacc cagtggcaaa
                                                                        300
cctqccacac tcaaqatctq ctcttqgaat gtggatgggc ttcgagcctg gattaagaag
                                                                        360
aaaggattag attgggtaaa ggaagaagcc ccagatatac tgtgccttca agagaccaaa
                                                                        420
tgttcagaga acaaactacc agctgaactt caggagctgc ctggactctc tcatcaatac
                                                                        480
tggtcagctc cttcggacaa ggaagggtac tagcaactaa ccatggttaa aaggtcttag
                                                                        540
tcaqaattac aaaaacaaaa catttaqaqt aatacttatg aatcaagcat aattggttcc
                                                                        600
togocttota caaataccat otttgaaaat gatnaaaago aggtttoaac tgtggttott
                                                                        660
```

```
ctctcantig aaaaggtcag atcccatggg tgatctactg atttaccttc tgaaaagtac
                                                                       727
ttggccg
      <210> 280
      <211> 751
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(751)
      <223> n = A,T,C \text{ or } G
      <400> 280
gnnnntgann gtatacgact cactataggg cgaattgggc cetetagatg catgetegag
                                                                        60
                                                                       120
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                       180
ctcatgtatt tttttttt tccagatete tttccccaag ttgctattgt aagagtatte
tgctgcgtgt ggatgcagtt atacacatta aagcagatct ggagtctgaa gtagctataa
                                                                       240
agcagctata aaacagaaat acatgcatag ctgcagaaac catgataggt agaggacttt
                                                                       300
tottttggtt ttgttttgtt ttgttttgtt ttgtttttgg ttttacagag aagagatttt
                                                                       360
                                                                       420
tattacaaag aaaaaaattc cagtgaattg tgcagaaatg ctggttttta caccatccta
aagaaaaact ttacaagggt gttttggagt agaaaaaagg ttataaagtt ggaatcttaa
                                                                       480
attgtaaaat taaccattga gtgtcaaagt tctaaaagca gaactcattt tgtgcaatga
                                                                       540
acataaggaa agactactgn ataggttttt tttttctcct tttaaatgaa gaaaagcttt
                                                                       600
gettaagggt tgeatacttt tattggagta aatetgaatg atectaetee tttggagtaa
                                                                       660
aactagtgct taccagtttc caattggatt taacttctgg ggtggaattt ggaaaaaaaa
                                                                       720
                                                                       751
agaannnngg aaaaagaaaa cctaanttaa n
      <210> 281
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(727)
      <223> n = A, T, C or G
      <400> 281
gnnnttegan tgggeeetet agatgeatge tegageggee gecagtgtga tggatatetg
                                                                        60
cagaattege cettagegtg gtegeggeeg aggtaeteat gtatttttt ttttttecag
                                                                       120
atototttoc ccaagttgct attgtaagag tattotgctg cgtgtggatg cagttataca
                                                                       180
                                                                       240
cattaaaqca qatctqqaqt ctqaaqtagc tataaaqcag ctataaaaca gaaatacatg
catagetgea gaaaceatga taggtagagg actitietti tggtittgti ttgttttgti
                                                                       300
                                                                       360
ttgttttgtt tttggtttta cagagaagag atttttatta caaagaaaaa aattccagtg
aattgtgcag aaatgctggt ttttacacca tcctaaagaa aaactttaca agggtgtttt
                                                                       420
                                                                       480
ggagtagaaa aaaggttata aagttggaat cttaaattgt aaaattaacc attgagtgtc
aaagttotaa aagcagaact cattttgtgo aatgaacata aggaaagact actgnatagg
                                                                       540
                                                                       600
ttttttttt ctccttttaa atgaagaaaa gctttgctta agggttgcat acttttattg
gagtaaatct gaatgatcct actcctttgg agtaaaacta gngcttccag tttccaattg
                                                                       660
                                                                       720
gatttaactt ctggntggaa tttgnaaaaa aaagaanaaa aggaaaanga aaccctaant
                                                                        727
naaatag
      <210> 282
      <211> 749
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (749)
      <223> n = A,T,C or G
```

```
<400> 282
                                                                       60
tnnaaagnaa getetttaet eactatnngg gegaattggg eeetetagat geatgetega
geggeegeea gtgtgatgga tatetgeaga attetneett egageggeeg eeegggeagg
                                                                      120
180
taaaagctnt acatggccct gcntacaaac tttctgcata cttctgcaaa tttttatgcn
                                                                      240
ttactnaatc cattaaaaat caccttggaa naaactgcaa acncantana aactaaatga
                                                                      300
natagtcaca gagaacanca aaaatagtaa ttnaagttcc catacaacat caagtgtgtn
                                                                      360
cagtotattt tnggttotto gggttotott taaaattgaa ttgagtttgn atatgcatat
                                                                      420
gtatgtagga gtggaggatg gaattaatta teccaaacat cetacantca etectetaat
                                                                      480
atttctttng ttaacatgca aatctgttct cttcattacg gngatactgc atttacatta
                                                                      540
caacacantt agagatcatt aactttctcc tttataatca gccattttca caggcctttg
                                                                      600
atatacaagc acctataata tattettaet cateteacac ttteatttae caaagtgtea
                                                                      660
aaacaacatt tttacatcat tgatatttgg ttnantttct gcaanctggc tgttanaaaa
                                                                      720
                                                                      749
tgattacttc tnttaaatta ccttttanc
      <210> 283
      <211> 730
      <212> DNA
      <213> Homo Sapien
      <220>
     <221> misc_feature
      <222> (1)...(730)
     \langle 223 \rangle n = A,T,C or G
     <400> 283
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                                                                       60
                                                                      120
caqaattege cettegageg geegeeeggg caggtaettt ttttttttt tttttttt
tttttttttc aaactactag gatttactgt aggataaaag cintacatgg cccigcatac
                                                                      180
aaactttntg catacttntg caaattttta tgcattactc aatccattaa aaatcacctt
                                                                      240
ggaanaaact gcaaacncaa tagaaactaa atganatagt cacagagaac aacaaaaata
                                                                      300
gtaatttaag ttcccataca acatcaagtg tgttcagtct atttttggtt cttcgggttc
                                                                      360
totttaaaat tgaattgagt ttgtatatgc atatgtatgt aggantggag gatggaatta
                                                                      420
attateceaa acatectaca eteacteete taatatttet titgitaaca igeaaateig
                                                                      480
ttctcttcat tacggngata ctgcatttac attacaacac aattagagat cattaacttt
                                                                      540
                                                                      600
ctcctttata atcagccatt ttcacaggcc tttgatatac aagcacctat aatatattct
tactcatctt acactttcat ttaccaaagt gtcaaaaaaca acatttttac atcattggat
                                                                      660
atttggttta gtttctgcaa nctggctttt anaaaaatga ttacttctct taaattacct
                                                                      720
                                                                      730
tttaccctca
      <210> 284
      <211> 739
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(739)
      \langle 223 \rangle n = A,T,C or G
     <400> 284
                                                                       60
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ggccgccagt gtgatggata tetgcagaat tegecettag egtggtegeg gecgaggtae
                                                                      120
aacataaagc aacagagagg tettcatgtt tgggaagtgg ctgggcagga tgccaaaccc
                                                                      180
                                                                      240
caaatgactt attgagcaat ttctaaacca aacagagagg taggaaaaga ggatgggggt
caggggtgga ggctgtggaa aggggagagc gagggctgaa gagaatggca gccatacagg
                                                                      300
tgttttgttt ttatttccac atctgaggac tgagagtctg atttgctgcc tgtccatttc
                                                                      360
cgccactcat tgactgtcca tagttcatca tgccattggc tccatagaag ttcatcccag
                                                                      420
ccatctgctg ggtcatctga gtaaggttcc attgcagctg ctgagctggc tggaccccat
                                                                      480
acacagtetg gggcataget gccatgeetg ccatgtagec agcetgetgg gtggtcatca
                                                                      540
ttccattcgg cacacccatc attgatgcct gcatgccacc catatagcct gcaggcatgg
                                                                      600
```

```
ccatgggggc aaccatccca gaactnotgc tgagcaacca tgcctactgg tggaagcatc
                                                                        660
                                                                        720
atgetteeca ttatgetgtt angangtgta eecengggaa actggggtag etgtgggata
                                                                        739
tccatctgan ccggaccat
      <210> 285
      <211> 721
      <212> DNA
      <213> Homo Sapien
      <220>
     <221> misc_feature
      <222> (1)...(721)
      <223> n = A,T,C or G
      <400> 285
gnnnttcgan tgggccctct ngatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                         60
cagaattege cettagegtg gtegeggeac gaggtacaac ataaagcaac agagaggtet
                                                                        120
teatgtttgg gaagtggetg ggeaggatge caaaccccaa atgaettatt gagcaattte
                                                                        180
taaaccaaac agagaggtag gaaaagagga tggggggtcag gggtggaggc tgtggaaagg
                                                                        240
ggagagcgag ggctgaagag aatggcagcc atacaggtgt tttgttttta tttccacatc
                                                                        300
tgaggactga gagtctgatt tgctgcctgt ccatttccgc cactcattga ctgtccatag
                                                                        360
tteateatge cattggetee ataqaagtte ateccageea tetgetgggt catetgagta
                                                                        420
aggttccatt gcagctgctg agctggctgg accccataca cagtctgggg catagctgcc
                                                                        480
atgeotgeca tgtagecage etgetgggtg gteateatte catteggeae acceateatt
                                                                        540
gatgcctgca tgccacccat atagcctgca ngcatggcca tgggggcaac catcccagaa
                                                                        600
ctcctggctg agcaaccatg cctactggtg gangcatcat gcttcccatt atgctgttag
                                                                        660
                                                                        720
gangtgtacc ccggggaanc tggggtagct gtgggatatc catttaaccg gagccatgaa
                                                                        721
      <210> 286
      <211> 757
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(757)
      \langle 223 \rangle n = A,T,C or G
      <400> 286
gnnnnttaaa gnntacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                         60
eggecegeca gtgtgatgga tatetgeaga attegeeett tegageggee gecegggeag
                                                                        120
                                                                        180
gacgcggggg ttgcaccatg gcgtccatgg ggaccctcgc cttcgatgaa tatgggcgcc
ctttcctcat catcaaggat caggaccgca agtcccgtct tatgggactt gaggccctca
                                                                        240
                                                                        300
agtotoatat aatggoagoa aaggotgtag caaatacaat gagaacatoa ottggaccaa
atgggcttga taagatgatg gtggataagg atggggatgt gactgtaact aatgatgggg
                                                                        360
ccaccatctt aagcatgatg gatgttgatc atcagattgc caagctgatg gtggaactgt
                                                                        420
ccaagtetea ggatgatgaa attggagatg gaaccacagg agtggttgte ctggctggtg
                                                                        480
ccttgttaga agaagcggag caattgctag accgaggcat tcacccaatc agaatagccc
                                                                        540
gatggctatg agcaggctgc tcgcgttgct attgaacacc tggacaagat cagcgatagc
                                                                        600
                                                                        660
gtccttgttg acataaagga caccgaaccc ctgattcaga cagcaaaaaa ccacgctggg
cttncaaaag tggtcaacag ttgtcaccga cagatggctt gaaaattgct gtgaaatgcc
                                                                        720
cgtccttact gtaaccagat atngaaccgg aaaagac
                                                                        757
      <210> 287
      <211> 726
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(726)
```

 $\langle 223 \rangle$ n = A,T,C or G

```
<400> 287
gnnnnactga tttctggctc gaagttgnat ntgcggncgc cagtgtgatg gatatctgca
                                                                        60
gaattcgccc tttcgagcgg ccgcccgggc aggacgcggg ggttgcacca tggcgtccat
                                                                       120
ggggaccotc gcottcgatg aatatgggcg coctttcctc atcatcaagg atcaggaccg
                                                                       180
caagtcccgt cttatgggac ttgaggccct caagtctcat ataatggcag caaaggctgt
                                                                       240
agcaaataca atgagaacat cacttggacc aaatgggctt gataagatga tggtggataa
                                                                       300
ggatggggat gtgactgtaa ctaatgatgg ggccaccatc ttaagcatga tggatgttga
                                                                       360
tcatcagatt gccaagctga tggtggaact gtccaagtct caggatgatg aaattggaga
                                                                       420
tggaaccaca ggagtggttg tcctggctgg tgccttgtta gaagaagcgg agcaattgct
                                                                       480
agaccgaggc attcacccaa tcagaatagc ccgatggcta tgagcaggct gctcgcgttg
                                                                       540
ctattgaaca cctggacaag atcagcgata gcgtccttgn tgacataaag gacaccgaac
                                                                       600
ccctgattca gacagcaaaa accacgctgg gctccaaaag tggtcaacag ttgtcaccga
                                                                       660
cagatggctg aaaatgctgt gaatgccgtc ctnctgtanc agatatngaa ccggaaaaga
                                                                       720
ccttga
                                                                       726
      <210> 288
      <211> 743
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(743)
      \langle 223 \rangle n = A,T,C or G
      <400> 288
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ggccgccagt gtgatggata tctgcagaat tcgcccttcg gccgcccggg caggtacett
                                                                       120
ttacctaaaa ttctagccac tttaatttgg agagtttcca gagcaaaggg cacagatccc
                                                                       180
aggeataaca acgetttgcg tatacageaa ceaatatett gteaaceeaa gaaagtteet
                                                                       240
ccattgatac ctagtagaaa tagcccagtt tttaaagtcc tcaaaactgt aacaaattac
                                                                       300
ttgtttttaa aatttaactt aaattaatac aatcagattt ttgtgttatt tgggtattag
                                                                       360
agtatgttaa agcacatata toocagagac atagagttto cgtttcaaaa agtcatgcat
                                                                       420
teatgtgtge taatgacaat cetateetga ceegetatgt gaettgtate tetaaaccat
                                                                       480
aggettteet gaattttate tgttaattta accetgattt eteageagea gettetettt
                                                                       540
gtaaatagac ttgcctcttc tgtgtctgac ctctgctcct cataatcaga ttaactcaga
                                                                       600
taaagetget teagggaaga ggteaaaace gttgeeaaaa atagtagttg ceetacttea
                                                                       660
gtotattttc aacagagtag cocaggagat ctgtcacacc aaagtccaat cagccctact
                                                                       720
ggtagcactc tgntcacaag ccn
                                                                       743
      <210> 289
      <211> 726
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(726)
      <223> n = A,T,C or G
      <400> 289
gnnnnnactc gcagtccgtc tagatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                        60
gcagaattcg cccttcggcc gcccgggcag gtacctttta cctaaaattc tagccacttt
                                                                       120
aatttggaga gtttccagag caaagggcac agatcccagg cataacaacg ctttgcgtat
                                                                       180
acagcaacca atatettgte aacccaagaa agtteeteea ttgataceta gtagaaatag
                                                                       240
cccagttttt aaagtcctca aaactgtaac aaattacttg tttttaaaat ttaacttaaa
                                                                       300
ttaatacaat cagatttttg tgttatttgg gtattagagt atgttaaagc acatatatcc
                                                                       360
cagagacata gagtttccgt ttcaaaaagt catgcattca tgtgtgctaa tgacaatcct
                                                                       420
atcotgacco gotatgtgac ttgtatotot aaaccatagg ctttootgaa ttttatotgt
                                                                       480
taatttaacc ctgatttctc agcagcagct tctctttgta aatagacttg cctcttctgt
                                                                      540
```

```
gtotgacoto tgotoctoat aatcagatta actcagataa agotgottoa gggaagaggt
                                                                        600
caaaaccgtt gccaaaaata gtagttgccc tacttcagtc tattttcaac agagtagcca
                                                                        660
ggagatetgt teacaceaaa gtecaateag eestactggt ageactetge teacaageet
                                                                        720
                                                                        726
ncagtq
      <210> 290
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (740)
      \langle 223 \rangle n = A,T,C or G
      <400> 290
gnnnngaaag tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
                                                                         60
ggccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                        120
                                                                        180
ccagatgtet tteteggtea cettecegag accatttaag acctecetag etgetegtte
tocagoctea actgeccett ceatgtagec getecaettt gtggcagtet etgtgecege
                                                                        240
aaagaaaato otgoocacgg gttgacgaat caccottoca tattgagtca tgatcocagg
                                                                        300
agggaagtag geegtgtage ageeceeaga gtaeetgeee gggeggeege tegaaaggge
                                                                        360
quattecage acaetggegg cegttactag tggatecgag eteggtacca agettggegt
                                                                        420
aatcatggtc atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca
                                                                        480
tacgageegg aageataaag tgtaaageet ggggtgeeta atgagtgage taacteacat
                                                                        540
taattgcgtt gcgctcactg cccgctttcc agtcgggaaa cctgtcgtgc cagctgcatt
                                                                        600
aatgaategg ccaaegegee ggggagagge ggnttgegta ttggggegete ttnegettte
                                                                        660
tngctcactg actcgctgcg ctcggtcgtt cggctgcggc nagcggtatc agctcattaa
                                                                        720
                                                                        740
angcggtaat acggtatccn
      <210> 291
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (724)
      <223> n = A, T, C or G
      <400> 291
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                                                                         60
                                                                        120
cagaattege cettagegtg gregeggeeg aggtaceeag atgtetttet eggteacett
cccgagacca tttaagacct ccctagctgc tcgttctcca gcctcaactg ccccttccat
                                                                        180
                                                                        240
gtagccgctc cactttgtgg cagtctctgt gcccgcaaag aaaatcctgc ccacgggttg
acgaatcacc cttccatatt gagtcatgat cccaggaggg aagtaggccg tgtagcagcc
                                                                        300
cccagagtac ctgcccgggc ggccgctcga aagggcgaat tccagcacac tggcggccgt
                                                                        360
tactagtgga tccgagctcg gtaccaagct tggcgtaatc atggtcatag ctgtttcctg
                                                                        420
                                                                        480
tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgta
aagcctgggg tgcctaatga gtgagctaac tcacattaat tgcgttgcgc tcactgcccg
                                                                        540
ctttccagtc gggaaacctg tcgtgccagc tgcattaatg aatcggccaa cgcgcgggga
                                                                        600
gaggeggttt gegtattggg egetetteeg etteeteget eactgaeteg etgegettng
                                                                        660
                                                                        720
nccgtccggt tgcggcagcg gtataactna ctcaaaggcg gtaataccgg tatncacaga
                                                                        724
atca
      <210> 292
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
```

60

120

180 240

300 360

420

480

540

600

660 720

740

60

120

180

240

300

360

420

480

540

600

660

720

723

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aattaaaato tgatgggtaa ccatttaaat aagacaactg gggtaaccca tttctccagg
                                                                      540
                                                                      600
acceptetet geaacagaga getattetet ttetttggee tagtaaacet etgetettaa
cctttaaaaa aaaaaaaaa gtacctcggc cgcgaccacg ctaanggcga attccagcac
                                                                      660
                                                                      720
actggcggcc gttactagtg gatccgaact cggtccaact tggcgtaatc atggcatagt
                                                                      736
ggttcctgng tgaaan
      <210> 295
      <211> 725
      <212> DNA
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      <221> misc_feature
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                                                                      120
                                                                      180
caccacgcct ggctaatttt tttttgtatc tttagtaggg ttttgccatg ttggccaggc
tggtctttaa ctcctacctc gtgatccacc cgcctcggcc ccccaaagtg ctaggaccac
                                                                      240
aggogtgago caccaogoco agcococtgt ctotttttt aaaacacaat ttaaaaagcag
                                                                      300
                                                                      360
aaagaaaaaa totgtgotgt ttagactcag attottaatt agotagtatt tottaattca
atcaataaat tattaagacc ttttcactgc tcccttttta aagtcttctt tggagtgatt
                                                                      420
taaqtqcttc ttattaccaa gctctcaaag agaagataaa attaaaatct gatgggtaac
                                                                      480
catttaaata agacaactgg ggtaacccat ttctccagga cccctctctg caacagagag
                                                                      540
                                                                      600
tacctcggcc gcgaccacgc taagggcgaa ttccagcaca ctggcggccg ttactagtgg
                                                                      660
                                                                      720
atcogaacto ggtaccaago ttgcgtaato atggcatago tggttcctgt gtgaaatggt
                                                                      725
atccq
      <210> 296
      <211> 742
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      <213> Homo Sapien
      <220>
      <221> misc_feature
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      <223> n = A, T, C \text{ or } G
      <400> 296
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geogecagtg tgatggatat etgeagaatt egecettteg ageggeegee egggeaggta
                                                                      120
ccatgctgac ttcttggtat cttttaaggc ctaattttcc cttccttgag attactgtag
                                                                      180
                                                                      240
tgtgttccag ctaatttcta tttggaaacg agttggaaca gctgaaaact aggtattatt
gaaggcaaag cagcctcacg tcagtttttt atcagctcat ttgggaagtt ttttttttt
                                                                      300
                                                                      360
tttttttttttta attaattaga aagtaggetg ggeaeggtgg eteatgeeta taateeeage
acttggggag gccgaggatc tcctctctgg tggatcactt gagggcagga gttaagagac
                                                                      420
                                                                      480
catcotgqcc aacatgatga aaccotgtot ctactaaaaa tacaaaaagt agotgggcgt
                                                                      540
ggtggcatac tettacaate ecagetaett gggaggetga ggcaggagaa teaettgaac
                                                                      600
ctaggaagca gaggttgcag tgggccaaga tcacaccact atactctagc ctgggcgaca
gaagtgggga aaaaagtagg acceptgtee tatatteang gtttteteac atatatgaac
                                                                      660
                                                                      720
ccatctaaat tctacgttgg taaaaggaac ctaaggttaa ttagnctata cttatttaag
                                                                      742
aaccattntg gggnggagat gg
      <210> 297
      <211> 728
      <212> DNA
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<221> misc_feature

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                                                                          60
gcagaatteg ceetttegag eggeegeeeg ggeaggtace atgetgaett ettggtatet tttaaggeet aatttteeet teettgagat tactgtagtg tgtteeaget aatttetatt
                                                                         120
                                                                         180
tggaaacgag ttggaacagc tgaaaactag gtattattga aggcaaagca gcctcacgtc
                                                                         240
300
gtaggetggg caeggtgget catgeetata ateccageae ttgggggagge egaggatete
                                                                         360
ctctctggtg gatcacttga gggcaggagt taagagacca tcctggccaa catgatgaaa
                                                                         420
ccctgtctct actaaaaata caaaaagtag ctgggcgtgg tggcatactc ttacaatccc
                                                                         480
                                                                         540
agctacttgg gaggctgagg caggagaatc acttgaacct aggaagcaga ggttgcagtg
                                                                         600
ggccaagatc acaccactat actctagcct gggcgacaga agtggggaaa aaagtaggac
ccctgtccta tattcangtt tttctcacat atatgaaccc atctaaattc tacgttggta
                                                                         660
aaggtanett aagttaatta gnetataett atttaagane aatatggggt gaaaatggat
                                                                         720
                                                                         728
ttttttn
      <210> 298
      <211> 745
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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      <223> n = A,T,C \text{ or } G
      <400> 298
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                                                                          60
cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttagcgtgg tcgcggccga
                                                                         120
ggtacccacg ttttgctcca cactccttga ccgcaggggc tcggacacaa acccctgtca
                                                                         180
                                                                         240
ccaggagagt cagtcagcac tacttgggag ggctaaaggg aaatttggaa ataaaattcc
aaagtttgga gtaaaaaaat tcaagtgttg attttatatt ctttcccttt ctgacacagc
                                                                         300
ctaaagcgta gggggaacat gtgtttatct gtgggagata aacaagatgg agtcccaaag actttaacaa aatattttt taaaaatcca ctagaataga aaatacatta tttagatata
                                                                         360
                                                                          420
                                                                          480
ctttatgctg agagtgagta tatatgcttg tcctatttaa acttgtgaga aaaagtggta
tecettgata catttagaaa tatggggget atettgttte attgtggggg tggggcagaa
                                                                          540
                                                                          600
ggagaataaa tgcaggatga ccctgttgaa ggaatcttag catggccaac aggggacgtt
                                                                          660
tccagtcgat taccaggaaa tgcaagcett ggggtttcta ctggtggtgg ggctgtcatg
                                                                          720
aactttaaaa tccaaagcct agacaaggaa aagtgttaga ccaattgaaa agcaatccac
                                                                          745
ccttttttt tttttttt ggctt
      <210> 299
      <211> 733
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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      <223> n = A,T,C or G
      <400> 299
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                                                                          60
                                                                          120
gcagaattcg cccttagcgt ggtcgcggcc gaggtaccca cgttttgctc cacactcctt
gaccgcaggg gctcggacac aaacccctgt caccaggaga gtcagtcagc actacttggg
                                                                          180
agggctaaag ggaaatttgg aaataaaatt ccaaagtttg gagtaaaaaa attcaagtgt
                                                                          240
                                                                          300
tgattttata ttotttocct ttotgacaca godtaaagog tagggggaac atgtgtttat
ctgtgggaga taaacaagat ggagtcccaa agactttaac aaaatatttt tttaaaaaatc
                                                                          360
cactagaata gaaaatacat tatttagata tactttatgc tgagagtgag tatatatgct
                                                                          420
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480
tgtcctattt aaacttgtga gaaaaagtgg tatcccttga tacatttaga aatatggggg
                                                                       540
ctatcttgtt tcattgtggg ggtggggcag aaggagaata aatgccagga tgaccctgtt
gaaggaatct tancatggcc aacaggggac gtitccagtc gattaccagg aaatgcaagc
                                                                       600
                                                                       660
cttggggttt ctactggtgg tggggctgtc atgaacnttt aaaatccaaa gcctagacca
                                                                       720
aggaaaagtg ttaganccan tggaaaagcc attccagccc tttttttttn nnnntttttg
gcttttcacc aca
                                                                       733
      <210> 300
      <211> 741
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (741)
      <223> n = A, T, C or G
      <400> 300
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                                                                        60
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                       120
gtacgtagtc taggccatat gtgttggaga ttgagactag tagggctagg cccaccgctg
                                                                       180
cttcgcaggc ggcaaagact agtatggcaa taggcacaat attggctaag agggagtggg
                                                                       240
tgttgagggt tatgagagta gctataatga acagcgatag tattattcct tctaggcaca
                                                                       300
gtagggagga tatgaggtgt gagcgatata ctagtattcc tagaagtgag atggtaaatg
                                                                       360
ctagtataat atttatgtaa atgaggggcc ccgcgtactc aagtgggtct ctgcctctca
                                                                       420
gtqqtqqcct tqqtcttcaa gtttcaqcaa ttctqqqaaq ccaaqqacac ctccatctc
                                                                       480
tectecetga tetgeaacte atetaagage agetttetea etggaatgte ttgtgtttaa
                                                                       540
ggaacaagaa teeetgttte eggtttgggt geecaagtge acetactgga teeaacecag
                                                                       600
gattggagat actitgcaga acacaacato atotggcaca tgaccagoca tggtgtttca
                                                                       660
ctttcacaat ttcagctinc ttcactgatt gcagcataat cgnggtcaac accttcaaga
                                                                       720
                                                                       741
ccaaggctga tgtgggccgc t
      <210> 301
      <211> 724
      <212> DNA
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      <221> misc_feature.
      <222> (1)...(724)
      <223> n = A,T,C or G
      <400> 301
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ctgcagaatt cgccctttcg agcggccgcc cgggcaggta cgtagtctag gccatatgtg
                                                                       120
ttggagattg agactagtag ggctaggccc accgctgctt cgcaggcggc aaagactagt
                                                                       180
atggcaatag gcacaatatt ggctaagagg gagtgggtgt tgagggttat gagagtagct
                                                                       240
ataatgaaca gcgatagtat tattccttct aggcacagta gggaggatat gaggtgtgag
                                                                       300
cgatatacta gtattcctag aagtgagatg gtaaatgcta gtataatatt tatgtaaatg
                                                                       360
aggggccccg cgtactcaag tgggtctctg cctctcagtg gtggccttgg tcttcaagtt
                                                                       420
tcagcaattc tgggaagcca aggacacctc catctcctcc tccctgatct gcaactcatc
                                                                       480
taagagcage tttetcactg gaatgtettg tgtttaagga acaagaatee etgttteegg
                                                                       540
tttgggtgcc caagtgcacc tactggatcc aacccaggat tggagatact ttgcagaaca
                                                                       600
caacatcatc tggcacatga ccagccatgg tgtttcactt tcacaatttc agcttncttc
                                                                       660.
actgattgca cataatcgtg gtcaacacct tcaagaccan ggctgatgtn ggccgntaca
                                                                       720
ngga
                                                                       724
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      <211> 745
      <212> DNA
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      <223> n = A,T,C \text{ or } G
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ageggeegee agtgtgatgg atatetgeag aattegeeet ttegagegge egeeegggea
                                                                       120
                                                                        180
ggtactattc cggatataca agatcactgg gagatgttga tgatggagac acagtgacag
atttcatggc ccaagagcga gaaagaggca ttactattca atcagctgct gttacatttg
                                                                       240
                                                                       300
attggaaagg ttatagagtc aatctaattg atacaccagg tcatgtggac tttaccttgg
aggttgagcg gtgcctaaga gtgttggatg gtgcagtggc tgtatttgat gcctctgctg
                                                                       360
gtgtagaggc ccagactotc acagtatgga ggcaagetga taaacacaat atacctcgaa
                                                                        420
totgtttttt aaacaagatg gacaaaactg gagcaagett taagtatgca gttgaaagca
                                                                        480
tcagagagaa gttaaaggca aagcetttge ttttacagtt accaattggt gaagecaaaa
                                                                       540
ctttcaaagg agtggtggat gtagtaatga aagaaaaact tctttggaat tgcaattcaa
                                                                        600
atgatggaaa agactttgag agaaagcccc tcttggaaat gaatgatcct gaattgctga
                                                                        660
                                                                        720
aggaaacaac tgaagcaagg aatgccttaa ttgaacaagt tgcagaattt ggatgatgaa
                                                                        745
ttgctgactt gggtttanaa naaat
      <210> 303
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gcagaattcg ccctttcgag cggccgcccg ggcaggtact attccggata tacaagatca
                                                                        120
ctgggagatg ttgatgatgg agacacagtg acagatttca tggcccaaga gcgagaaaga
                                                                        180
ggcattacta ttcaatcagc tgctgttaca tttgattgga aaggttatag agtcaatcta
                                                                        240
attgatacac caggicatgt ggactttacc tiggaggitg ageggigeet aagagigitg
                                                                        300
gatggtgcag tggctgtatt tgatgcctct gctggtgtag aggcccagac tctcacagta
                                                                        360
                                                                        420
tggaggcaag ctgataaaca caatatacct cgaatctgtt ttttaaacaa gatggacaaa
actggagcaa gctttaagta tgcagttgaa agcatcagag agaagttaaa ggcaaagcct
                                                                        480
                                                                        540
ttgcttttac agttaccaat tggtgaagcc aaaactttca aaggagtggt ggatgtagta
atgaaagaaa aacttotttg gaattgcaat tcaaatgatg gaaaagactt tgagagaaag
                                                                        600
                                                                        660
ccctcttgg aaatgaatga tcctgaattg ctgaaggaaa caactgaagc aaggaatgcc
ttaattgaca agttgcagat ttggatgatg aatttgctga cttggtttta gaagaattan
                                                                        720
                                                                        724
tgag
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      <211> 741
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                                                                         60
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                                                                        120
actttataaa tggaattttc ttctacttgt atccatttcc cggggcttat ggacccattc
                                                                        180
                                                                        240
atacteteca tatttagaat caaaggttee tttetgaaga gacettaatt ttaaggtaaa
acgtggtcca agttcctgaa ttcccacttt cttttcactc ctgaatatgt atctgtgaaa
                                                                        300
                                                                        360
totgaagaat atgtaatoco gttgattgtg gaatgtggca acctgcotto cgataaattg
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aggattatga ggaaagagag atgcaaacat acgtccaatt gaatgaccca gccgtgttgt
                                                                     420
aaaattatto agaattattt caggtatgtg ttotgtgggg toottgooto ttotottaat
                                                                     480
                                                                     540
ttctttacga agacgaacac tgctcatttt aaaatgagca gttgggccat ttggcaagtg
                                                                     600
actcaaaata agtccatttg gggttttacg atcttcatta ataacaatca ggtctgtgaa
atctcttgcg atgcactgtg gaataatttt tttcagaacc agcctcttct gtaataaaca
                                                                     660
tgtgagtttg gtataactgt gganagctgt cacagagtcg taccagtata ccaaccatac
                                                                     720
                                                                     741
caactntgtt gtagagcaaa a
      <210> 305
      <211> 719
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gcagaattcg cccttagcgt ggtcgcggcc gaggtacttt ataaatggaa ttttcttcta
                                                                     120
cttqtatcca tttcccqqqq cttatqqacc cattcatact ctccatattt aqaatcaaaq
                                                                     180
                                                                     240
gttcctttct gaagagacct taattttaag gtaaaacgtg gtccaagttc ctgaattccc
actttctttt cactcctgaa tatgtatctg tgaaatctga agaatatgta atcccgttga
                                                                     300
ttgtggaatg tggcaacctg ccttccgata aattgaggat tatgaggaaa gagagatgca
                                                                     360
aacatacgtc caattgaatg acccagccgt gttgtaaaat tattcagaat tatttcaggt
                                                                     420
atgtgttctg tggggtcctt gcctcttctc ttaatttctt tacgaagacg aacactgctc
                                                                     480
attttaaaat gagcagttgg gccatttggc aagtgactca aaataagtcc atttggggtt
                                                                     540
ttacgatett cattaataac aatcaggtet gtgaaatete ttgcgatgca etgtggaata
                                                                     600
attitticaq agccaqtcct cttctqtaat aaacatgtga agtitggtat actgtggana
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                                                                     719
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      <400> 306
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                                                                      60
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                     120
180
gttatagtcc atctcatagt gttgttagga ctaatttctt catgtgctta gaaaaatgcc
                                                                     240
tggcagatag gaaatggtca atattattat tattgataag atgaccattt tggagtttag
                                                                     300
                                                                     360
aaaaccattt tcaatgccta tgaaataaca actccataag ccattccctt aaatccagta
gactgaatte teacaagtee teateactea teatttetae atectgetga tttacaaata
                                                                     420
cttcttcata ccatggttta tgtctttgct taatatcaag gaggatggat tccatggtag
                                                                     480
agccaaactc aatgatacta cgagtctcat tttggtaagt ataagcaaag ccagcagcat
                                                                     540
gcatggccac caatgaacct tttgaatcaa acacagggga gcccggaagc cccaaagaaa
                                                                     600
aattcagtgt cataggtaat cacatcangg ttgtgaacta ttttctggaa acttctttga
                                                                     660
gtatacatat ggacatactc tggactttct gcttttttag actgaacacg ttcctgacat
                                                                     720
ttctttgctc gctgaccctg anggat
                                                                     746
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      <211> 725
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      <223> n = A,T,C or G
      <400> 307
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gnnnnntnch antggecete tagatgeatg etegagegge egeeagtgtg atggatatet
gcagaattcg ccctttcgag cggccgcccg ggcaggtact ccagcccagg cgacagagtg
                                                                        120
                                                                       180
agactcagtc tcaaaaaaaa aaaaaatttg ggcaagttat agtccatctc atagtgttgt
taggactaat ttcttcatgt gcttagaaaa atgcctggca gataggaaat ggtcaatatt
                                                                        240
                                                                       300
attattattg ataagatgac cattttggag tttagaaaac cattttcaat gcctatgaaa
taacaactec ataagecatt ceettaaate cagtagactg aattetcaca agtecteate
                                                                        360
                                                                       420
actcatcatt totacatoot gotgatttac aaatacttot toataccatg gtttatgtot
ttgcttaata tcaaggagga tggattccat ggtagagcca aactcaatga tactacgagt
                                                                        480
                                                                       540
ctcattttgg taagtataag caaagccagc agcatgcatg gccaccaatg aaccttttga
                                                                        600
atcaaacaca ggggagccgg aagccccaaa gaaaaattca gtgtcatagg taatcacatc
anggttgtga actattttct ggaaacttct ttgagtatac atatggacat actctggact
                                                                       660
ttctgctttt ttagactgac acgttcctga catttctttg ctcgctgacc ctgagggatc
                                                                       720
                                                                        725
      <210> 308
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      \langle 223 \rangle n = A,T,C or G
      <400> 308
                                                                        60
gnnnntgaaa gtaatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                       120
                                                                        180
gtacgegggg tgacaagtag caacatggct tgggtcccct gtgcagcatc agettatgct
gccacaagtc agtttgcacc ctaggtaccc aggagctagt atccttagat ctttctatcg
                                                                        240
                                                                       300
ctaacttaat tetettegtt atttatetga ceetetaact ecatgtetaa ettgeattaa
aaaaaaaaa attetttaca gteaaceeaa gettaacatg gacteaggtt ceceageage
                                                                       360
                                                                       420
cttaatttgt tttgttaaca tctgttcctt ctttttcagc tctcctagag tatttctgag
tgttgtgttc atctaatctt agtattcttt taattacaaa ttgacctcac agcttgaggt
                                                                        480
tteetgigte ttattetgig gaetacetgt geteettige tteeeeteee etegeataat
                                                                       540
aactatatta agaaattitt titiggoottg agitiggotgg aaaaaaaata taaaatttaa
                                                                        600
                                                                       660
aaaaaaaan nnnnnnnnaa aaaaaaaag tacctnggcc gggaccacgc taanggcgaa
ttccagcaca ctggcggccg ttactaagtg gatccgaact cggtaccaac ttggcgtaat
                                                                        720
catggcatag ctggttcctg ngga
                                                                        744
      <210> 309
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A,T,C or G
      <400> 309
gnnnntncga ntgggccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                        60
geagaatteg ecetttegag eggeegeeeg ggeaggtaeg eggggtgaea agtageaaca
                                                                       120
tggcttgggt cccctgtgca gcatcagctt atgctgccac aagtcagttt gcaccctagg
                                                                       180
tacccaggag ctagtatect tagatettte tategetaac ttaattetet tegttattta
                                                                       240
totgaccotc taactccatg totaacttgc attaaaaaaa aaaaaattct ttacagtcaa
                                                                       300
cccaagetta acatggacte aggtteecca geageettaa titigttitigt taacatetgt
                                                                       360
```

```
teettetttt teagetetee tagagtattt etgagtgttg tgtteateta atettagtat
                                                                       420
                                                                       480
tettttaatt acaaattgac etcacagett gaggttteet gtgtettatt etgtggacta
cetgtgctcc tttgcttccc ctcccctcgc ataataacta tattaagaaa ttttttttgg
                                                                       540
                                                                       600
ccttgagttg gctggaaaaa aaatataaaa tttaaaaaaa aaannnnnnn nnnnaaaaaa
aaaagtcctt ggccgggacc acnctaangg cgaaattcca gcacaactgg gcggnccgtt
                                                                       660
                                                                       720
actaagggga atccenaact tnggnaccen aaacttggge gtaaaacaat gggncaataa
                                                                       746
gctggnnncc ctggnggtga aaaatt
      <210> 310
      <211> 751
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(751)
      <223> n = A, T, C or G
      <400> 310
                                                                        60
gnnnntgana gtaatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                       120
                                                                       180
gtacttaatg cettteteet cetggacate agagagaaca cetgggtatt etggcagaag
                                                                       240
tttatatttc tccaaatcaa tttctggaaa aaacgtgtca ctttcaaagt cttgcatgat
ccttgtcaca aatagtttaa gatggcctgg gtgattcatg gcttccttat aaacagaact
                                                                       300
                                                                       360
gccaccaact atccagacca tgtctacttt atttgctaat tctggttgtt cagtaagttt
taaggcatca totagactto tggaaagaaa atgagctoot tgtggaggtt cottgagtto
                                                                       420
                                                                       480
totgotgaga actaaattaa ttotaccott taaaggtoga ttottotoag gaatggagaa
ccaggtotto ttacccataa tcaccagatt otgnttacct totactgaag aagttgtggt
                                                                       540
cattetetgg aaatatetga atteatteet gageggtgge caaggeangt neeegttett
                                                                       600
                                                                       660
geogatgeec atgitetggg acacagegae gatgeagitt agegaaceaa ceatgacage
aaccgggang accttcgagc cccgttcgnt acaagccccc gcgtaccttn gggccgngaa
                                                                       720
cacgettaag ggcgaattne aacacactgg c
                                                                       751
      <210> 311
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(724)
      \langle 223 \rangle n = A,T,C or G
      <400> 311
gnnttnenan tgggeeetet agatgeatge tegageggee geeagtgtga tggatatetg
                                                                        60
cagaattege cetttegage ggeegeeegg geaggtaett aatgeettte teeteetgga
                                                                       120
catcagagag aacacctggg tattctggca gaagtttata tttctccaaa tcaatttctg
                                                                       180
gaaaaaacgt gtcactttca aagtcttgca tgatccttgt cacaaatagt ttaagatggc
                                                                       240
ctgggtgatt catggcttcc ttataaacag aactgccacc aactatccag accatgtcta
                                                                       300
ctttatttgc taattctggt tgttcagtaa gttttaaggc atcatctaga cttctggaaa
                                                                       360
gaaaatgago toottgtgga ggttoottga gttototgot gagaactaaa ttaattotao
                                                                        420
                                                                       480
cetttaaagg tegattette teaggaatgg agaaceaggt ettettaeee ataateacea
gattetgttt accttetact gaagaggttg tggteattet etggaaatat etgaatteat
                                                                        540
tectgagegg tggecaagge angteceegt tettgeegat geceatgite tgggacacag
                                                                       600
cgacgatgca gtttancgaa ccacccatga cagcagcggg aggaccttcg agcccgctcg
                                                                       660
                                                                       720
ttacaagece eegegtacet tnggeegega acacettang gegaaattea acacaetgge
                                                                        724
ggcc
      <210> 312
      <211> 738
      <212> DNA
```

<213> Homo Sapien

```
<220>
      <221> misc_feature
      <222> (1) ... (738)
      <223> n = A, T, C or G
      <400> 312
nnnntttgaa gnctacnact cactataggg cgaattgggc cctctagatg catgetcgag
                                                                        60
                                                                       120
cggccgccag tgtgatggat atctgcagaa ttcgcccttt gagcggccgc ccgggcaggt
acgcgggggg cagacatggc gacattgaca gtggtccagc cgctcaccct ggacagagat
                                                                       180
                                                                       240
gttgcaagag caattgaatt actggaaaaa ctacaggaat ctggagaagt acgttcacta
attatctaca aggacaaaat cagttgtatt tacaaaactc tacttcagtg tttgttttag
                                                                       300
ttttttttt actgaaactt gtttttgtga atactctgtg cttagaatta aatatcactt
                                                                       360
tottatgaac aacataactt ottoagattg tgtatatgaa aacattagca agtottgttt
                                                                       420
tttctatgaa gcaaacacaa ttggtgacaa aggttgtcaa tcatttcttc aaaattataa
                                                                       480
tgcagttcta atggtcagca tattttgata ttaaatttaa agatcacctc tctgcatttg
                                                                       540
tttttaaatt atgctaatac accacacatt atgttggtat gttttggtct gtcctcggcc
                                                                       600
gcgaccacgc ttanggcgaa ttccagcaca ctggcgggcc gttactagtg gatccgagct
                                                                       660
cggtccaagc tggcgtaatc atggtcatag ctggttcctg tgtgaaatgg tatccgttac
                                                                       720
                                                                       738
aattcccaca catacgan
      <210> 313
      <211> 720
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (720)
      \langle 223 \rangle n = A,T,C or G
      <400> 313
gnnttncaan tgggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
cagaattege cetttgageg geegeeeggg caggtaegeg gggggeagae atggegaeat
                                                                        120
                                                                        180
tgacagtggt ccagccgctc accetggaca gagatgttgc aagagcaatt gaattactgg
aaaaactaca ggaatetgga gaagtaegtt cactaattat etacaaggae aaaateagtt
                                                                        240
gtatttacaa aactctactt cagtgtttgt tttagttttt tttttactga aacttgtttt
                                                                        300
tgtgaatact ctgtgcttag aattaaatat cactttctta tgaacaacat aacttcttca
                                                                        360
                                                                        420
gattgtgtat atgaaaacat tagcaagtct tgttttttct atgaagcaaa cacaattggt
                                                                        480
gacaaaggtt gtcaatcatt tottcaaaat tataatgcag ttctaatggt cagcatattt
                                                                        540
tqatattaaa tttaaaqatc acctctctgc atttgttttt aaattatgct aatacaccac
acattatgtt ggtatgtttt gntctgtacc tcggccgcga ccacgctaan ggcgaattca
                                                                        600
                                                                        660
ncacactggc ngncgttact agtggatccg agctcggacc aaacttggcg taatcatngn
catagotggt tootgtgtga aaatggtato cgttacaatt toacacacat acgagoogga
                                                                        720
      <210> 314
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (740)
      <223> n = A, T, C or G
      <400> 314
gnnnnttnaa gnctacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                         60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                        120
ctttttttt tttttttt ttagtgcttt ctactttatt aaacatcaaa gcccaaatag
                                                                        180
                                                                        240
atgttccctg tggaggagga cttaaggaca ctaggggagg agaaagggac acctgggaag
agaatcacac cacagagacc aatcttcaca aaaagggtcc aatattgatt tctagggagg
                                                                        300
agcagggcat ggtcagctca aatttggtga taacgtcagg atgaaggacc ccaagcttcc
                                                                        360
```

<213> Homo Sapien

```
cgacgetttg acceetggca aagatetetg cacategeee ggggaagaaa geaggeeett
                                                                         420
ctgatgcttt gatcacatat cccccttgt cttcaccagg aggcacatcg agcaactgca
                                                                         480
taattctgtc cagcagccca tgaatgatct caaacccagg attcttgntg taataaacag
                                                                         540
cactgagatg totgtagttt tttgcaccta catctgnatt agaatctttt attacaatgt
                                                                         600
cagagatttc aaacagtttc agtggaaggg gcatcttacg attgctgcta tggcttcagg angccaggaa gaagggtagt gcgtgccacc tgaaattcac tggtttagga tacttatgtg
                                                                         660
                                                                         720
gactggcttt gttgcaaaan
      <210> 315
      <211> 722
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(722)
      <223> n = A,T,C or G
      <400> 315
gnnnnnnnn nnnnnnntnn atgetgeteg ageggeegee agtgtgatgg atatetgeag
                                                                          60
aattogooot tagogtggto goggoogagg tacttttttt ttttttttt ttttagtgot
                                                                         120
ttctacttta ttaaacatca aagcccaaat agatgttccc tgtggaggag gacttaagga
                                                                         180
cactagggga ggagaaaggg acacctggga agagaatcac accacagaga ccaatcttca
                                                                         240
caaaaagggt ccaatattga tttctaggga ggagcagggc atggtcagct caaatttggt
                                                                         300
gataacgtca ggatgaagga ccccaagctt cccgacgctt tgacccctgg caaagatctc
                                                                         360
tgcacatcgc ccggggaaga aagcaggccc ttctgatgct ttgatcacat atccccctt
                                                                         420
gtottcacca ggaggcacat cgagcaactg cataattotg tocagcagco catgaatgat
                                                                         480
ctcaaaccca ggattettgt tgtaataaac agcactgaga tgtetgtagt tttttgcacc
                                                                         540
tacatetgna ttagaatett ttattacaat gteagagatt teaaacagtt teagtggaaa
                                                                         600
ggggcatctt acgatttgct gctatggnct tcangaggnc angaaaaagg gtantgcntg
                                                                         660
cccctgaaat tcanctggtt taggattacc tatgtggact ggctttgntg caaaaaaatn
                                                                         720
                                                                         722
      <210> 316
      <211> 753
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (753)
      \langle 223 \rangle n = A,T,C or G
gnnnnnttna nagtnnnnac gactcactat aggggcgaac nctctncatg catgctcnan
                                                                          60
eggnennean ngtgatggat atntgetgan ttegecetta centngentn ggeegaggeg
                                                                         120
cagniteceae giningetee neacthennn acegeagggg enengaenen gaeengngnn
                                                                         180
nennngngag tnecneagea etaettggga nggetanagg gaagnttgga aataaaatte
                                                                         240
caaannttgg agtaaaagca atncangcgn ngattatata tgntnnccct ttctgacacn
                                                                         300
nectagageg tagggggaac atgngtntat etgtgggana tnaacaagat ggagteccaa
                                                                         360
agactttaac aaagntattt cttaannatc cnctacaatn nanaatncat tattcatatn
                                                                         420
tactntatgc tgnnagtgag tatntatgct ngtcctattt aaacttgnga gaanaagtgg
                                                                         480
tntcccttga tacattnaga aatatggggg ctatcttgnt ncattgtggg ggtggggcan
                                                                         540
aagganaatn aatgcangat gacctgttg aangaatctt aacatggcca acanggggac
                                                                         600
ngtttacagt cgattaccag gaaangcaag ccttggggtt tctactgcng gtgggggctg
                                                                         660
tcatgaactt naaaatccan agnetatacc aggaaaaagt gttangaccc aattgaaang
                                                                         720
ctntccaccc tttcttttnn tttgttccng cnc
                                                                         753
      <210> 317
      <211> 893
      <212> DNA
```

```
<220>
      <221> misc_feature
      <222> (1)...(893)
      \langle 223 \rangle n = A,T,C or G
      <400> 317
                                                                         60
gtgnnntntn cnaaatggnc cntttnaatg cctncctcga gcgggccgcc agtgtgatgg
atntntaatt cgncettage gtggtegegg eegnngtaen aangaaataa aantnacagt
                                                                        120
                                                                        180
ntcaaagaac caaantaagt cggacacaaa cccctgtcac cannagagtc ccatanacat
aannnggntg ntgtcaagna ggattnaaat taactttaac aacnttntat ataatgctac
                                                                        240
                                                                        300
attccccaat taataaagga nagttcacat atacanctaa ntgntaattg tggaaanaag
ggtgaaantn tgcatantta atannaaana atgctgaang cttttncata nnattnnctt
                                                                        360
                                                                        420
aaaaatncac ttncnatgca gcantangtn tacatgctta atntatcntg cnagtgattn
ntatgettgt cetacatgae ntacettgaa caactggnae tneccagatt catactgaaa
                                                                        480
                                                                        540
tatggggncg ntaantatnt tgggancggn annachtgaa tcctcaaagg atannnnntn
tecagntgga tgaaacenat nattnaaang gatatnntna accatnggan egaatgnneg
                                                                        600
nngntetttt teaatnntne gngaagntne ennttnnata neeegnggge encattgngg
                                                                        660
ggnntatntn ncaatcaann conngagntg thtnntchtt chtchacege ataacetttt
                                                                        720
gccataggga acctinttin aacccctttg gnttatnggg aaanaannnn nnttttaaat
                                                                        780
tenecaaaat ngggaaaaan aaccettnte actetaaaaa nttaneenta gacetanttn
                                                                        840
tngngncata tttgntaaac nctatggncc ctcnagnggg gnnctgggnc nnc
                                                                        893
      <210> 318
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (744)
      <223> n = A, T, C or G
      <400> 318
gnnnngattg tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
ggccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                        120
                                                                        180
acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc
acctgagata acagaatgaa aatggaagga cagccagatt teteetttge tetetgetea
                                                                        240
ttctctctga agtctaggtt acccattttg gggacccatt ataggcaata aacacagttc
                                                                        300
ccaaagcatt tggacagttt cttgttgtgt tttagaatgg ttttcctttt tcttagcctt
                                                                        360
ttcctgcaaa aggetcacte agtecettge ttgctcagtg gactgggete eccagggeet
                                                                        420
aggetgeett ettttecatg teccacceat gageceteca etggacaget cagtaageet
                                                                        480
                                                                        540
ggcccttcat tctgcgctgt gttcttcctc tgtgaaaatc caatacctct tacctcctct
gcatgcaaag attotcaagg attgtcagac ttcaaacgta acagcagaac caccagaagg
                                                                        600
tcctataaat gcagtagtga ccttctcaag ctgtcanggc tttaaatagg atttgggatt
                                                                        660
taatgctatg tatttttaaa ggaaagaaat aagagttgct agttttaaaa atgcatgtct
                                                                        720
                                                                        744
tttaccaatt canaatctgg cccc
      <210> 319
      <211> 720
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(720)
      \langle 223 \rangle n = A,T,C or G
      <400> 319
gngtttaaac cttcttanng ctgctcgagc ggccgccagt gtgatggata tctgcagaat
                                                                        120
tegecettte gageggeege eegggeaggt aceteattag taattgtttt gttgttteat
ttttttctaa tgtctcccct ctaccagctc acctgagata acagaatgaa aatggaagga
                                                                        180
```

240

```
135
```

```
cagecagatt teteetttge tetetgetea ttetetetga agtetaggtt acceattttg
gggacccatt ataggcaata aacacagttc ccaaagcatt tggacagttt cttgttgtgt
                                                                       300
                                                                       360
tttagaatgg ttttcctttt tcttagcctt ttcctgcaaa aggctcactc agtcccttgc
ttgctcagtg gactgggetc cccagggect aggetgeett ettttecatg teccaeccat
                                                                       420
gageceteca etggacaget cagtaageet ggecetteat tetgegetgt gttetteete
                                                                       480
tgtgaaaatc caatacctct tacctcctct gcatgcaaag attctcaagg attgtcagac
                                                                       540
                                                                       600
ttcaaacqta acaqcaqaac caccaqaaqq tcctataaat gcagtagtga ccttctcaag
ctgtcanggc tttaaatagg atttgggatt taatgctatg tatttttaaa ggaaagaaat
                                                                       660
agagttgcta gttttaaaaa tgcatgtctt ttaaccaatt cagaatctgg ccccnaactt
                                                                       720
      <210> 320
      <211> 694
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(694)
      \langle 223 \rangle n = A,T,C or G
      <400> 320
                                                                        60
atgctcgagc ggncggcant gtgatggatn tctgcagaat tcgccctttc gagcggccgc
ccgggcaggt actattccgg atatacaaga tcactgggag atgttgatga tggagacaca
                                                                       120
                                                                       180
gtgacagatt tcatggccca agagcgagaa agaggcntta ctattcaatc agctgctgtt
acatttgatt ggaaaggtta tagagtcaat ctaattgata caccaggtca tgtggacttt
                                                                       240
                                                                       300
accttggagg ttgagcggtg cctaagagtg ttggatggtg cantggctgt atttgatgcc
tctgctggtg tagaggccca gactntcaca gtatggaggc aagctgataa acacaatata
                                                                       360
                                                                       420
cctcgaatct gttttttaaa caagatggac aaaactggag caagctttaa gtatgcagtt
gaaagcatca gagagaagtt aaaggcaaag cctttgcttt tacagttacc aattggtgaa
                                                                       480
                                                                       540
gccaaaactt tcaaaggagt ggtggatgta gtaatgaang aaaaacttct ttgggaattg
caattcaana tgatggaaaa gactttgaga gaaagcccct cttggaaatg aatgatcctg
                                                                       600
                                                                        660
aattgctgaa ggaaacaact gaacaaggaa tgccttaatt gaacaaagtt gcagatttgg
                                                                        694
atgatgaatt tgctgacttg gttttaagaa gaat
      <210> 321
      <211> 781
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(781)
      <223> n = A, T, C \text{ or } G
      <400> 321
gngttnacna ntgggccctc tngatgctgc togagcggcc gncagtgtga tggatntctg
                                                                         60
cagaatnogo cotnogggog geognooggg caggtactat nooggatata caagatcact
                                                                        120
                                                                        180
gggagatgtt gatgatggag acncagngac agatttcatg gcccaagagc gagaaagagg
                                                                        240
cnttactatn caatcagctg ctgttacatt cgattggaaa ggttatngag tcaatctaat
tgatncacca ngtnatgtgg actttacctt ggaggttgag cggtgcctaa nagtgttgga
                                                                        300
tggtgcanng gctgtatttg atgcctctgc tggtgtagag gcccagactc tcacagtatg
                                                                        360
gatgcaagct gataaacaca atatacctng aatctgtgtt ttaaacaaga tggacaaaac
                                                                        420
tggagcaagc tttaaagtnt gcagttgaaa gcatcagaga gangttnaag gcanagcctt
                                                                        480
tgcttttaca gtttcccaat tgggtgaaac ccaaaacttt tcaaagggag ttggttggat
                                                                        540
                                                                        600
tgtaagtaat gaaaggaaaa acttctttgg gaaantggca atttcaanat gattggaaaa
                                                                        660
ngacttttgg gagaaaagcc ccttcttggg aaaatngaaa tgatncctga aatttgcngt
aaanngaaaa cnaacntgna atccaangga attncccttt aanttggaac aaaggnttgc
                                                                        720
naanttttng attgaatnga atttgncnga cntttnggtt ttangaaaga aattaaagng
                                                                        780
                                                                        781
```

<210> 322 <211> 744

<212> DNA

```
<213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A,T,C or G
      <400> 322
                                                                        60
gnnntganag tategaetea etatagggeg aattgggeee tetagatgea tgetegageg
georgecagt gtgatggata tetgeagaat tegecettte gageggeege cegggeaggt
                                                                       120
acgcggggac tgggtttttc tccttttgta gccttttcct ttagtctcct cttcccggtg
                                                                       180
gttggtaaaa agaggtgaat tgacagccta tgttgaagac actgtgcttt tctcaagaag
                                                                       240
gacatccaaa cagcaagtot acttotttot otttaacgat gtgctcatta tcaccaagaa
                                                                       300
                                                                       360
gaagagtgaa gaaagttaca acgtcaatga ttattcctta agagatcagc tattggtgga
atcttgtgac aatgaagagc ttaattcttc tccagggaag aacagctcca caatgctcta
                                                                       420
                                                                       480
ttcaagacag agetetgeca gteacetett taetetgaca gteettagta accaegegaa
                                                                       540
tgagaaagtg gagatgctac taggagctga gacgcagagc gagcgagccc gctggataac
                                                                       600
tgccctggga cacagcagcg ggaagccgcc tgcagaccga acctnactga cccaggtgga
aatcgttagg tcatttactg ctaagcagcc agatgaactc ttcctgcagt ggctgacgtc
                                                                       660
                                                                       720
qtcctcatct atcaacgtgt cagcgatggc tggtatgaag gggaacgact tcgagatgga
                                                                       744
gaaagaagnt gggttcctat ggaa
      <210> 323
      <211> 723
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (723)
      <223> n = A,T,C or G
      <400> 323
                                                                        60
qtqtttcaan cqqtcctcta qatqctqctc gagcggccgc cagtgtgatg gatatctgca
                                                                       120
gaattegeee tttegagegg cegeeeggge aggtaegegg ggaetgggtt ttteteettt
tqtaqccttt tcctttaqtc tcctcttccc ggtggttggt aaaaagaggt gaattgacag
                                                                       180
cctatgttga agacactgtg cttttctcaa gaaggacatc caaacagcaa gtctacttct
                                                                       240
                                                                       300
ttctctttaa cgatgtgctc attatcacca agaagaagag tgaagaaagt tacaacgtca
                                                                        360
atgattattc cttaagagat cagctattgg tggaatcttg tgacaatgaa gagcttaatt
cttctccagg gaagaacage tecacaatge tetattcaag acagagetet gecagtcace
                                                                       420
tetttaetet gacagteett agtaaceaeg egaatgagaa agtggagatg etaetaggag
                                                                       480
ctgagacgca gagcgagcga gcccgctgga taactgccct gggacacagc agcgggaagc
                                                                       540
cgctgcagac cgaacctcac tgacccaggt ggaaatcgtt aggtcattta ctgctaagca
                                                                       600
                                                                       660
gccagatgaa ctcttcctgc angtggctga cgtcgtcctc atctatcaac gtgtcancga
tggtggtatg aaggggaacg actacnagat ggagaaagaa gctggtttcc tatggaatgt
                                                                        720
                                                                        723
qcc
      <210> 324
<211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (746)
      <223> n = A,T,C or G
      <400> 324
gggnttgaag nenegaetea etatagggeg aattgggeee tetagatgea tgetegageg
                                                                         60
gcccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                        120
cttgagatet gageaactgt gttaatgaag taatageaat ggteeacagt gaaagatgtg
                                                                        180
```

```
240
ttggggtttg caaaacaagc attccgtcac ctctttaata atgtcacaga cttttttaaa
                                                                     300
agagaggeta teaagttgta atataatetg teatgtttta tttaggaagg aaggtaaatt
                                                                     360
tgtgcttgca cggggatcat tttgtattat ttntgctaat acccagttga agctaaaaag
caactatttg aatcctgtga attaatttat aagaatgtta aacagctntg gaaatacatg
                                                                     420
catcttatga atcatagcct tatttagcaa gatcaatgtt aaagtgttga tatatggcaa
                                                                     480
gtatttaaca cattcacagt gntagtttga tttcaactgt gaattgtett acagtttttt
                                                                     540
                                                                     600
caaacctagt gtntetatgg acacctgete tgaattgtac ccctcagtca ccaccaaagc
atttncaccc ctttcaaccc ccaatcagac cantgettte agtggtattg gaggacttnt
                                                                     660
                                                                     720
atcacagett catnangtgg tettggcaca ggcagnetga etngettngg aactggtget
                                                                     746
tttggactcc cttcaanngn aatant
      <210> 325
      <211> 742
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(742)
      <223> n = A,T,C or G
      <400> 325
                                                                      60
gtgtttcann cggccctcta gatgcatgct cgagcggccc gccagtgtga tggatatctg
cagaattcgc ccttagcgtg gtcgcggccg aggtaccttg agatctgagc aactgtgtta
                                                                     120
                                                                     180
atgaaqtaat agcaatggtc cacagtgaaa gatgtgttgg ggtttgcaaa acatgcattc
cgtcacctct ttaataatgt cacagacttt tttaanagag aggctatcaa gttgtnatat
                                                                     240
                                                                     300
aatctgtcat gtattattta agaaggaagg taaatntgtg cttgcacggg gatcattttg
nattattnct gctnataccc agctgaagct nanaancnac tntttgnatc ctgtgantta
                                                                     360
                                                                     420
atnoatanna atgitanaca gointggaaa tocatgooto tiatgaatca ingoottati
tancangate aatgttaaag ntgttgatat nnggeaagtn tntaacacat tnacantget
                                                                     480
agintgatti caacigngaa tigncitacc gintiinnaa acciananga aintaingac
                                                                     540
acctneteth aathgnnnee etcaancace aenaaanett tinenneeet incaaceeee
                                                                     600
natengacen engeatteag tngnaaneng aangaettte ateacaactg gneaanatnt
                                                                     660
                                                                     720
nggactttgg cgccatgenn accetettgg netttngaac nnggttgeet tttnggactt
                                                                     742
tnencetgng ngataaccac cn
      <210> 326
      <211> 747
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (747)
      <223> n = A,T,C \text{ or } G
      <400> 326
atgntttaag tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
                                                                       60
ggccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                      120
actgtatcat tggcagatgt gacgtcaccg acaaccagag tgaagtggcg gacaaaactg
                                                                     180
aggattacct gtggctgaag ttgaaccaag tgtgttttga cgacgatggc accagctccc
                                                                     240
cacaagacag geteactete teacagttee agaagcagtt gttggaagae tatggegagt
                                                                      300
occaetttae ggtgaaccag caaccettee tetaetteea agteetgtte etgacagege
                                                                     360
420
atgtagcact ggtgctgttt gagctgaagc tgcttttaaa gtcctctgga cagagtgctc
                                                                      480
aactectcag ccacgaacet ggtgaceett ettgettgeg geggetgaac ttegtgegge
                                                                      540
tecteatget gtacetegge egngaceaeg etaagggega attecageae actggeggne
                                                                      600
                                                                      660
gttactagtg gatccgaget eggtaccaaa ettggegtaa teatggneat agetggttee
tgtgtgaaat ggtatccgtt acaatttcac acaacatacg agccgggaag catnaagtgt
                                                                      720
                                                                      747
naaacctggg gtgcctnatg agtgacn
```

<211> 724

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(724)
      <223> n = A, T, C \text{ or } G
      <400> 327
gtnatgaaac cnttctntng ngcatgctcg agcggccgcc agtgtgatgg atatctgcag
                                                                           60
aattegeeet ttegagegge egeeegggea ggtaetgtat cattggeaga tgtgaegtea
                                                                          120
ccgacaacca gagtgaagtg gcggacaaaa ctgaggatta cctgtggctg aagttgaacc
                                                                          180
aagtgtgttt tgacgacgat ggcaccagct ccccacaaga caggctcact ctctcacagt
                                                                          240
tccagaagca gttgttggaa gactatggcg agtcccactt tacggtgaac cagcaaccct
                                                                          300
tectetaett ceaagteetg tteetgacag egeagtttga ageageagtt geetttettt
                                                                          360
                                                                          420
tecgeatgga geggetgege tgecatgetg tecatgtage actggtgetg tttgagetga
agetgetttt aaagteetet ggacagagtg etcageteet cagecacgag eetggtgace
                                                                          480
cteettgett geggeggetg aacttegtge ggeteeteat getgtaeete ggeegegaee
                                                                          540
acgetaaggg cgaattecag cacactggcg gccgttacta gtggatccga gctcggtacc aagettggcg taatcatggt catagetgtt teetgtgtga aattgtatce gctcacaatt
                                                                          600
                                                                          660
ncacacaaca tacgageegg aagcataaag tgtaaaacct ggggtgeeta atgagtgaac
                                                                          720
                                                                          724
      <210> 328
      <211> 747
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (747)
      <223> n = A,T,C or G
      <400> 328
tgnntgttag atacgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                           60
qcccqccaqt qtqatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                          120
ttttttttt ttttttaaag acagagtett getetgteae ecaggetgga gtgeagtgge
                                                                          180
                                                                          240
acgatetegg etcaetgeaa getetgeete eegggtteae gecattetee tgeeteagee
                                                                          300
tcccgagtag ctgggactac aggtgcccgc caccatgccc ggctgatttc tttttgtatt
tttagtagag acggagtttc accgtgttag ccaggatggt ctcgatctcc tgacctcgtg
                                                                          360
                                                                          420
atecgecege ettggeetee aaagtgetgg gattacaggt gtgagetace gegeeeggee
                                                                          480
tattatettg tactttetaa etgageeete tattttettt attttaataa tattteteee
cacttgagaa tcacttgtta gttcttggta ggaattcagt tgggcaatga taacttttat
                                                                          540
                                                                          600
gggcaaaaac attctattat agtgaacaaa tgaaaataac agcgtatttt caatattttc
ttatteetta aatteeacte ttttaacaet atgettaace aettaatgtg atgaaatatt
                                                                          660
                                                                          720
cctaaaagtt aaatgactat taaagcatat attggtgcat gnatatatta aagtacccga
                                                                          747
tactctaaat aaaaatccac tggtccn
      <210> 329
      <211> 725
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (725)
<223> n = A,T,C or G
      <400> 329
qcqtttcaan tqqqccctct ngngcatgct cgagcggccg ccagtgtgat ggatatctgc
                                                                           60
agaattogoo ottagogtgg togoggooga ggtacttttt ttttttttt taaagacaga
                                                                          120
```

```
gtettgetet gteacceagg etggagtgea gtggeacgat eteggeteac tgeaagetet
                                                                        180
gcctcccggg ttcacgccat tctcctgcct cagcctcccg agtagctggg actacaggtg
                                                                        240
cccgccacca tgcccggctg atttcttttt gtatttttag tagagacgga gtttcaccgt
                                                                        300
gttagccagg atggtctcga tctcctqacc tcgtgatccg cccgccttgg cctccaaaqt
                                                                        360
gctgggatta caggtgtgag ctaccgcgcc cggcctatta tcttgtactt tctaactgag
                                                                        420
ccctctattt tctttatttt aataatattt ctccccactt gagaatcact tgttagttct
                                                                        480
tggtaggaat tcagttgggc aatgataact tttatgggca aaaacattct attatagtga
                                                                        540
acaaatgaaa ataacagogt attttcaata ttttcttatt ccttaaattc cactctttta
                                                                        600
acactatgct taaccactta atgtgatgaa atattcctaa aagttaaatg actattaaag
                                                                        660
catatattgg tgcatgtata tattaagtag cccgatctct naataaaaat ccactggtac
                                                                        720
agata
                                                                        725
      <210> 330
      <211> 741
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (741)
      <223> n = A,T,C or G
      <400> 330
gnnntganag atacgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                         60
gecegecagt gtgatggata tetgeagaat tegecettag egtggtegeg geegaggtae
                                                                        120
ttttttttt ttttttttt ttttttttt ggaagtttaa tttactcaca gttcaacatg
                                                                        180
gctggggagg cctcaggaaa tttacaatta taacagaagg caaaggggaa qccaqatacc
                                                                        240
ttcttcacaa ggtggcagga aggagaagag ccgagagaag gcggaagaat cccttataaa
                                                                        300
accatcagat ctcgtgagaa ctcacttgct atcaggagaa cagcatgggg gaaccgccc
                                                                        360
caggattcaa tgaccincac ciggicicic ccitgacacg tgaggattat ggggattaca
                                                                        420
attccagatg agatttgggt ggggacacaa agccaaacca tatcaactgt gactaccttg
                                                                        480
ggtaagggcc atccaggcag aggcaggggg aacattetgg gcaaaggcct tggggcaggg
                                                                        540
gcctggtatg ttcagatagc ancaagtagg ccagantggc cggaggggag taaqtqtqqq
                                                                        600
gaggccagtg ganagatgag ggtagggaag ggatggatca gatcatgcag ggccccgggg
                                                                        660
gccacaggaa ngacctnagc atttactgca agtaangtgg gaaccatcga atgtctaagc
                                                                        720
naggaggaat ccctgtgact c
                                                                        741
      <210> 331
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(727)
      \langle 223 \rangle n = A,T,C or G
      <400> 331
gtnnnncgan ngggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                         60
cagaattcgc ccttagcgtg gtcgcggccg aggtactttt ttttttttt tttttttt
                                                                        120
ttttttggaa gtttaattta ctcacagttc aacatggctg gggaggcctc aggaaattta
                                                                        180
caattataac agaaggcaaa ggggaagcca gataccttct tcacaaggtg gcaggaagga
                                                                        240
gaagagccga gagaaggcgg aagaatccct tataaaaacca tcagatctcg tgagaactca
                                                                        300
ettgetatea ggagaacage atgggggaae egeceecagg atteaatgae etceaectgg
                                                                        360
teteteett gacacgtgag gattatgggg attacaatte cagatgagat ttgggtgggg
                                                                        420
acacaaagcc aaaccatatc aactgtgact accttgggta agggccatcc aggcagaggc
                                                                        480
agggggaaca ttctgggcaa aggccttggg gcaggggcct ggtatgttca gatagcagca
                                                                        540
agtaggccag antggccgga ggggagtaag tgtggggagg ccagtggaaa aatganggta
                                                                        600
gggaaaggga tggatcagat catgcagggc cccgggggcc acangaagga cctnacattt
                                                                        660
actgcaagta angtgggagc catcgaatgt tctaagcana ngangaatcc ctgngactca
                                                                        720
ngtgttn
                                                                        727
```

```
<210> 332
      <211> 734
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(734)
      <223> n = A, T, C or G
      <400> 332
                                                                           60
gnntganagt atacgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
gcccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                          120
accetteteg ettttgeeat tagecaagga tagaagetge agtggtatta attttgatat
                                                                          180
aatotttcaa accagettca tgtggettee ettttetttg ttcaagatga gggecaggag
                                                                          240
                                                                          300
gggaaacatc acacctgccc taaaccctgt tcctggaggt cagcatttga tctgttgcaa
geocetettt etgteeeste tteetaeest gesteesatg actitgetes teacactitt ggaaccatge etteeggggg ggeocatete ttetggeegt eettgtetet gggeocattg
                                                                          360
                                                                          420
gagtgtgtga taaatcagtc aagctgttga agtctcagga gtctctggta gcctgcagaa
                                                                          480
                                                                          540
gtaagectca teateagage ettteeteaa aactggagte ceaaatgtea teaggttttg
nttttttttc aaccactaag aacccctctg cttttaactc tagaatttgg gcttggacca
                                                                          600
gatctaacat cttgaatact ctgccctcta gaccttcacc ttaatggaan gtggatccca
                                                                          660
nganggtgta atggacatca agccactcgc ggcagcatgg agctatacta agcatcctta
                                                                          720
                                                                          734
nggtctgcct ctcn
      <210> 333
      <211> 710
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (710)
      \langle 223 \rangle n = A,T,C or G
                                                                           60
ntgggecete tngngetget egageggeeg ceagtgtgat ggatatetge agaattegee
ctttcgagcg gccgcccggg caggtaccct tctcgctttt gccattagcc aaggatagaa
                                                                          120
gctgcagtgg tattaatttt gatataatct ttcaaaccag cttcatgtgg cttccctttt
                                                                          180
                                                                          240
ctttgttcaa gatgagggcc aggaggggaa acatcacacc tgccctaaac cctgttcctg
gaggtcagca tttgatctgt tgcaagcccc tctttctgtc ccctcttcct accctgcctc
                                                                          300
ccatgacttt geteeteaca ettttggaac catgeettee gggggggeee atetettetg
                                                                          360
geogteettg tetetgggee acttggagtg tgtgataaat cagteaaget gttgaagtet
                                                                          420
caggagtete tggtageetg cagaagtaag ceteateate agageettte etcaaaaetg
                                                                          480
gagtcccaaa tgtcatcagg ttttgtttt ttttcagcca ctaagaaccc ctctgctttt
                                                                          540
aactctagaa tttgggcttg gaccagatct aacatcttga atactctgcc ctctagagcc
                                                                          600
ttcagcctta atggaagggt ggatccaang anggtgtaat ggaacatcaa gccactcgcg
                                                                          660
gcagcatgga gctatactaa gcatccttta nggtctgcct cttcagcatt
                                                                          710
      <210> 334
<211> 2051
      <212> DNA
      <213> Homo sapien
      <220>
      <221> misc_feature
      <222> (1)...(2051)
      <223> n = A,T,C or G
      <400> 334
                                                                           60
qcccttqcct caqcctaccc agtagctggt gatggccatc cttttataaa tgcaacgtcc
                                                                          120
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(54) Title: GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

(57) Abstract

This invention relates to novel human genes, to proteins expressed by the genes, and to variants of the proteins. The invention also relates to diagnostic and therapeutic agents related to the genes and proteins, including probes, antisense constructs, and antibodies. The invention further relates to polynucleotides differentially expressed in prostate cancer.

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(54) Title: GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

(57) Abstract

This invention relates to novel human genes, to proteins expressed by the genes, and to variants of the proteins. The invention also relates to diagnostic and therapeutic agents related to the genes and proteins, including probes, antisense constructs, and antibodies. The invention further relates to polynucleotides differentially expressed in prostate cancer.

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C. DOCUME	NTS CONSIDERED TO BE RELEVANT				
Category °	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to claim No.		
A	HILLIER, L. ET AL.: "WashU-NC project: zu71f08.s1 Soares tes sapiens cDNA clone 743463" EMBL DATABASE ENTRY AA609384, 1 October 1997 (1997-10-01), X the whole document	1,2,7-9			
A	HILLIER, L. ET AL.: "WashU-NC project 1997: zv83c03.s1 Soare fetus Nb2HF8 9w Homo sapiens c 760228" EMBL DATABASE ENTRY HS1226101; NUMBER AA425141 (VERSION 2), 28 October 1997 (1997-10-28), the whole document	1,2,7-9			
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X Furt	ner documents are listed in the continuation of box C.	X Patent family men	nbers are listed in annex.		
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C.(Continua	tion) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	HILLIER, L. ET AL.: "WashU-NCI human EST project: za83e08.rl Soares fetal lung NbHL19W Homo sapiens cDNA clone 299174" EMBL DATABASE ENTRY HS287326; ACCESSION NUMBER W05287,8 May 1996 (1996-05-08), XP002128752 the whole document	1,2,7-9
A	WO 98 04689 A (UROCOR INC) 5 February 1998 (1998-02-05) page 4, line 8 -page 5 page 13 -page 52 page 66 -page 85 page 112 -page 122	1-11
A	HELLER ET AL: "DISCOVERY AND ANALYSIS OF INFLAMMATORY DISEASE-RELATED GENES USING CDNA MICROARRAYS" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, vol. 94, March 1997 (1997-03), pages 2150-2155, XP002100125 ISSN: 0027-8424	
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International application No.

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. X No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-11 (all partially)
Remark on Protest The additional search fees were accompanied by the applicant's protest.
No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box 3.

Although claims 8 to 11 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Further defect(s) under Article 17(2)(a):

Continuation of Box 3.

Claims Nos.: 3 and 6

Present claims 3 and 6 relate to a nucleic acid sequences defined only by the (arbitrary) name of the clone they originate from. The use of these names in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to relate the clone names as given in claims 3 and 6 with the to be searched polynucleotide defined by SEQ ID 1. Consequently, no search has been carried out for claims 3 and 6 in the context of the first subject as mentionned on the communication pursuant to Art. 17(3)(a) PCT.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: Claims 1-11 (all partially)

A method for diagnosing or treating a prostate disorder by providing a probe, antisense, ribozyme capable of hybridizing to SEQ ID 1 or its complement, or an antibody capable of binding to a polypeptide encoded by SEQ ID 1.

Inventions 2 to 339: Claims 1,2,4,5,7-11 (all partially) and 3,6, 12-15 (all partially and as far as applicable)

As for subject 1. but respectively relating to SEQ IDs 2 to 339 (i.e. subject 2. corresponding to SEQ ID 2, subject 3. corresponding to SEQ ID 3,..., subject 339. corresponding to SEQ ID 339) and when applicable including the polynucleotide, vectors, cells and a composition containing the corresponding polypeptide.

Information on patent family members

Interna. Il Application No PCT/US 99/13181

Patent document cited in search report	Patent document		Patent family		Publication
	cited in search report		member(s)		date
WO 9804689	Α .	05-02-1998	AU EP US	6642996 A 0951541 A 5882864 A	20-02-1998 27-10-1999 16-03-1999

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GENES AND GENE EXPRESSION PRODUCTS THAT ARE DIFFERENTIALLY REGULATED IN PROSTATE CANCER

FIELD OF THE INVENTION

This invention relates to the area of diagnosis, prognosis, and treatment of cancer, tumor progression, hyperproliferative cell growth, and accompanying physical and biological manifestations. More specifically, the invention includes polynucleotides that are differentially regulated in prostatic disorders, such as metastatic prostate cancer, localized prostate cancer, and benign prostate hyperplasia (BPH).

BACKGROUND OF THE INVENTION

Genes that are up- or down-regulated in cancer or tumor progression are useful for therapeutic and diagnostic purposes. For example, detection of genes or gene expression products up-regulated in hyperproliferative cells can be a predictive or diagnostic marker of the onset or the progression of cancer. Early diagnosis can be useful if the cancer, tumors, or hyperproliferating cells can be inhibited, removed, or terminated to prevent metastasis or recurrence of cancerous growth. Such early warning is of particular use to prostate cancer patients, where removal of the growth, tumor, or cells is beneficial if the disease is confined to the prostate. There is a need in the art for genes related to cancer and tumor progression.

SUMMARY OF THE INVENTION

The present invention provides methods and reagents for diagnosing cancer, tumor progression, hyperproliferative cell growth, and accompanying biological and physical manifestations. Reagents for such diagnostic kits include:

- (a) polynucleotides comprising a sequence capable of hybridizing to one or more of SEQ ID NO:1-339 or complement thereof;
- (b) polypeptides comprising the amino acid sequence encoded by any one of SEQ ID NO:1-339; and
- (c) antibodies capable of binding polypeptides comprising the amino acid sequence of (b).

The methods of diagnosis of the present invention include both nucleic acid assays and immunoassays.

In another embodiment, the present invention provides both compositions and methods for treating or ameliorating cancer, tumor progression, 5 hyperproliferative cell growth, and accompanying biological and physical manifestations. The compositions for treatment or amelioration include:

- (a) polynucleotides comprising the sequence capable of hybridizing to one or more of the sequences shown in SEQ ID NO:1-339 and complement thereof, including antisense, ribozyme and gene therapy nucleic acid constructs;
- (b) polypeptides comprising the amino acid sequence encoded by any one of SEQ ID NO:1-339; and
- (c) antibodies capable of binding polypeptides of polypeptides comprising the amino acid sequence (b).

Methods of treatment or amelioration include administering compositions of polynucleotides, polypeptides, antibodies, or combinations thereof and can be used

- (a) to inhibit translation and/or transcription;
- (b) to inhibit biological activity;
- (c) as a vaccine antigen; and
- (d) as an immune system inducer.
- 20 Such compositions can be administered systemically or locally to the desired site.

In one embodiment, the present invention provides a composition comprising an isolated polynucleotide selected from the group consisting of

- (a) any one of SEQ ID NOs:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
 - (b) a polynucleotide that encodes a variant of the polypeptide encoded by (a); and
- (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of any one of the sequences of (a).

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Preferably, the nucleic acid obtained from the biological material of part (b) above is genomic DNA or mRNA. The nucleic acid can also be cDNA complementary to the mRNA.

Another embodiment of the invention is the use of the isolated polynucleotides or parts thereof as diagnostic probes or as primers.

In another embodiment, the present invention provides a composition comprising a polypeptide, wherein said polypeptide is selected from the group consisting of:

- (a) a polypeptide encoded by any one of SEQ ID Nos:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
 - (b) a polypeptide encoded by full-length mRNA or cDNA corresponding to any one of SEQ ID NO:1-339; and
 - (c) a variant of the protein (a) or (b);

In certain preferred embodiments, the polynucleotide is operably linked to an expression control sequence. The invention further provides a host cell, including bacterial, yeast, insect and mammalian cells, transformed with the polynucleotide sequence. The invention also provides the full-length cDNA and the full length human gene corresponding to the polynucleotide.

Protein and polypeptide compositions of the invention may further comprise a pharmaceutically acceptable carrier. Compositions comprising an antibody that specifically reacts with such protein or polypeptide are also provided by the present invention.

The invention further relates to a polypeptide or nucleic acid obtained by transforming a host cell with nucleic acid comprising at least one of SEQ ID NO:1-339, culturing the host cell, and recovering the replicated nucleic acid, the expressed RNA, and/or the expressed polypeptide.

Brief Description of the Figures

Figure 1 provides the open reading frame for clone SL 195.

Figure 2 provides the open reading frame for clone SL 197.

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Figure 3 provides the immunohistochemistry staining results for clone SL 5 expression in a variety of normal and tumor tissues.

Detailed Description of the Invention

Genes that are up- or down-regulated in cancer or tumor progression are useful for therapeutic and diagnostic purposes. For example, a diagnostic assay to determine the stage of the disease also is useful in tailoring treatment of aggressive versus more mild cancer or tumor progression. The polynucleotide sequences and encoded polypeptides of the present invention are useful for these diagnostic or prognostic purposes.

Further, modulation of genes or gene expression products that are misregulated can be used to treat or ameliorate cancer, tumor progression,
hyperproliferative cell growth, and the accompanying physical and biological
manifestations. For example, the polynucleotide sequences provided herein as SEQ ID
NO:1-339, can be used to construct the following polynucleotide and polypeptide
compositions that are useful for treatment: antisense; ribozymes; antibodies; vaccine
antigens; and immune system inducers, to induce dendritic cells, for example.

Identified herein are polynucleotide sequences that are upregulated in a cancer cell line, more specifically in a prostate cancer cell line. Thus, the present invention relates to methods and reagents for diagnosis, and to methods and compositions for treatment.

I. Use of Polynucleotides Having a Sequence of One or More of SEQ ID NO:1-339 to Obtain Full-Length cDNA and Full-Length Human Gene and Promoter Region

Full-length cDNA molecules comprising the disclosed sequences are obtained as follows. The polynucleotide or a portion thereof comprising at least 12, 15, 18, or 20 nucleotides is used as a hybridization probe to detect hybridizing members of a cDNA library using probe design methods, cloning methods, and clone selection techniques as described in U.S. Patent No. 5,654,173, "Secreted Proteins and Polynucleotides Encoding Them," incorporated herein by reference. Libraries of cDNA are made from selected tissues, such as normal or tumor tissue, or from tissues of a

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mammal treated with, for example, a pharmaceutical agent. Preferably, the tissue is the same as that used to generate the polynucleotides, as both the polynucleotides and the cDNA represent expressed genes. Most preferably, the cDNA library is made from the biological material described herein in the Examples. Alternatively, many cDNA libraries are available commercially. (Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual, 2nd Ed.* (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989).

Members of the library that are larger than the polynucleotide, and preferably that contain the whole sequence of the native message, are obtained. In order to confirm that the entire cDNA has been obtained, RNA protection experiments are performed as follows. Hybridization of a full-length cDNA to an mRNA will protect the RNA from RNase degradation. If the cDNA is not full length, then the portions of the mRNA that are not hybridized will be subject to RNase degradation. This is assayed, as is known in the art, by changes in electrophoretic mobility on polyacrylamide gels, or by detection of released monoribonucleotides. Sambrook et al., Molecular Cloning: A Laboratory Manual, 2nd Ed. (Cold Spring Harbor Press, Cold Spring Harbor, NY 1989). In order to obtain additional sequences 5' to the end of a partial cDNA, 5' RACE (PCR Protocols: A Guide to Methods and Applications (Academic Press, Inc. 1990)) is performed.

Genomic DNA is isolated using polynucleotides in a manner similar to the isolation of full-length cDNAs. Briefly, the polynucldotides, or portions thereof, are used as probes to libraries of genomic DNA. Preferably, the library is obtained from the cell type that was used to generate the polynucleotides, but this is not essential. Most preferably, the genomic DNA is obtained from the biological material described herein in the Examples. Such libraries may be in vectors suitable for carrying large segments of a genome, such as P1 or YAC, as described in detail in Sambrook *et al.*, 9.4-9.30. In addition, genomic sequences can be isolated from human BAC libraries, which are commercially available from Research Genetics, Inc., Huntville, Alabama, USA, for example. In order to obtain additional 5' or 3' sequences, chromosome walking is performed, as described in Sambrook *et al.*, such that adjacent and

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overlapping fragments of genomic DNA are isolated. These are mapped and pieced together, as is known in the art, using restriction digestion enzymes and DNA ligase.

Using the polynucleotides sequences of the invention, corresponding full length genes can be isolated using both classical and PCR methods to construct and probe cDNA libraries. Using either method, Northern blots, preferably, are performed on a number of cell types to determine which cell lines express the gene of interest at the highest rate.

Classical methods of constructing cDNA libraries are taught in Sambrook et al., supra. With these methods, cDNA can be produced from mRNA and inserted into viral or expression vectors. Typically, libraries of mRNA comprising poly(A) tails can be produced with poly(T) primers. Similarly, cDNA libraries can be produced using the instant sequences as primers.

PCR methods are used to amplify the members of a cDNA library that comprise the desired insert. In this case, the desired insert will contain sequence from the full length cDNA that corresponds to the instant ESTs. Such PCR methods include gene trapping and RACE methods. Gruber *et al.*, PCT WO 95/04745 and Gruber *et al.*, U.S. Pat. No. 5,500,356. Kits are commercially available to perform gene trapping experiments from, for example, Life Technologies, Gaithersburg, Maryland, USA. PCT Pub. No. WO 97/19110. (Apte and Siebert, *Biotechniques 15*:890-893, 1993; Edwards *et al.*, *Nuc. Acids Res.* 19:5227-5232, 1991).

The promoter region of a gene generally is located 5' to the initiation site for RNA polymerase II, and can be obtained by performing 5' RACE using a primer from the coding region of the gene. Alternatively, the cDNA can be used as a probe for the genomic sequence, and the region 5' to the coding region is identified by "walking up." If the gene is highly expressed or differentially expressed, the promoter from the gene may be of use in a regulatory construct for a heterologous gene.

Once the full-length cDNA or gene is obtained, DNA encoding variants can be prepared by site-directed mutagenesis, described in detail in Sambrook *et al.*, 15.3-15.63. The choice of codon or nucleotide to be replaced can be based on disclosure herein on optional changes in amino acids to achieve altered protein structure and/or function.

As an alternative method to obtaining DNA or RNA from a biological material, nucleic acid comprising nucleotides having the sequence of one or more polynucleotides of the invention can be synthesized. Thus, the invention encompasses nucleic acid molecules ranging in length from 15 nucleotides (corresponding to at least 15 contiguous nucleotides of one of SEQ ID NO:1-339) up to a maximum length suitable for one or more biological manipulations, including replication and expression, of the nucleic acid molecule. The invention includes but is not limited to (a) nucleic acid having the size of a full gene, and comprising at least one of SEQ ID NO:1-339; (b) the nucleic acid of (a) also comprising at least one additional gene, operably linked to permit expression of a fusion protein; (c) an expression vector comprising (a) or (b); (d) a plasmid comprising (a) or (b); and (e) a recombinant viral particle comprising (a) or (b).

The sequence of a nucleic acid comprising at least 15 contiguous nucleotides of at least any one of SEQ ID NO:1-339, preferably the entire sequence of at least any one of SEQ ID NO:1-339, is not limited and can be any sequence of A, T, G, and/or C (for DNA) and A, U, G, and/or C (for RNA) or modified bases thereof, including inosine and pseudouridine. The choice of sequence will depend on the desired function and can be dictated by coding regions desired, the intron-like regions desired, and the regulatory regions desired.

Where the entire sequence of any one of SEQ ID NO:1-339 is within the nucleic acid, the nucleic acid obtained is referred to herein as a polynucleotide comprising the sequence of any one of SEQ ID NO:1-339.

II. Expression of Polypeptide Encoded by Full-Length cDNA or Full-Length Gene

The polynucleotide, the corresponding cDNA, or the full-length gene is used to express the partial or complete gene product. Appropriate polynucleotide constructs are purified using standard recombinant DNA techniques as described in, for example, Sambrook et al., (1989) Molecular Cloning: A Laboratory Manual, 2nd ed. (Cold Spring Harbor Press, Cold Spring Harbor, New York). The polypeptides encoded by the polynucleotides are expressed in any expression system, including, for example,

bacterial, yeast, insect, amphibian and mammalian systems. Suitable vectors and host cells are described in U.S. Patent No. 5,654,173.

Bacteria. Expression systems in bacteria include those described in Chang et al., Nature (1978) 275:615, Goeddel et al., Nature (1979) 281:544, Goeddel et al., Nucleic Acids Res. (1980) 8:4057; EP 0 036,776, U.S. Patent No. 4,551,433, DeBoer et al., Proc. Natl. Acad. Sci. (USA) (1983) 80:21-25, and Siebenlist et al., Cell (1980) 20:269.

Yeast. Expression systems in yeast include those described in Hinnen et al., Proc. Natl. Acad. Sci. (USA) (1978) 75:1929; Ito et al., J. Bacteriol. (1983) 153:163; Kurtz et al., Mol. Cell. Biol. (1986) 6:142; Kunze et al., J. Basic Microbiol. (1985) 25:141; Gleeson et al., J. Gen. Microbiol. (1986) 132:3459, Roggenkamp et al., Mol. Gen. Genet. (1986) 202:302) Das et al., J. Bacteriol. (1984) 158:1165; De Louvencourt et al., J. Bacteriol. (1983) 154:737, Van den Berg et al., Bio/Technology (1990) 8:135; Kunze et al., J. Basic Microbiol. (1985) 25:141; Cregg et al., Mol. Cell. Biol. (1985) 5:3376, U.S. Patent Nos. 4,837,148 and 4,929,555; Beach and Nurse, Nature (1981) 300:706; Davidow et al., Curr. Genet. (1985) 10:380, Gaillardin et al., Curr. Genet. (1985) 10:49, Ballance et al., Biochem. Biophys. Res. Commun. (1983) 112:284-289; Tilburn et al., Gene (1983) 26:205-221, Yelton et al., Proc. Natl. Acad. Sci. (USA) (1984) 81:1470-1474, Kelly and Hynes, EMBO J. (1985) 4:475479; EP 0 244.234, and WO 91/00357.

Insect Cells. Expression of heterologous genes in insects is accomplished as described in U.S. Patent No. 4,745,051, Friesen et al. (1986) "The Regulation of Baculovirus Gene Expression" in: The Molecular Biology Of Baculoviruses (W. Doerfler, ed.), EP 0 127,839, EP 0 155,476, and Vlak et al., J. Gen. Virol. (1988) 69:765-776, Miller et al., Ann. Rev. Microbiol. (1988) 42:177, Carbonell et al., Gene (1988) 73:409, Maeda et al., Nature (1985) 315:592-594, Lebacq-Verheyden et al., Mol. Cell. Biol. (1988) 8:3129; Smith et al., Proc. Natl. Acad. Sci. (USA) (1985) 82:8404, Miyajima et al., Gene (1987) 58:273; and Martin et al., DNA (1988) 7:99. Numerous baculoviral strains and variants and corresponding permissive insect host cells from hosts are described in Luckow et al., Bio/Technology

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(1988) 6:47-55, Miller et al., Generic Engineering (Setlow, J.K. et al. eds.), Vol. 8 (Plenum Publishing, 1986), pp. 277-279, and Maeda et al., Nature, (1985) 315:592-594.

Mammalian Cells. Mammalian expression is accomplished as described in Dijkema et al., EMBO J. (1985) 4:761, Gorman et al., Proc. Natl. Acad. Sci. (USA) (1982) 79:6777, Boshart et al., Cell (1985) 41:521 and U.S. Patent No. 4,399,216. Other features of mammalian expression are facilitated as described in Ham and Wallace, Meth. Enz. (1979) 58:44, Barnes and Sato, Anal. Biochem. (1980) 102:255, U.S. Patent Nos. 4,767,704, 4,657,866, 4,927,762, 4,560,655, WO 90/103430, WO 87/00195, and U.S. RE 30,985.

Polynucleotide molecules comprising the polynucleotide sequence are propagated by placing the molecule in a vector. Viral and non-viral vectors are used, including plasmids. The choice of plasmid will depend on the type of cell in which propagation is desired and the purpose of propagation. Certain vectors are useful for amplifying and making large amounts of the desired DNA sequence. Other vectors are suitable for expression in cells in culture. Still other vectors are suitable for transfer and expression in cells in a whole animal or person. The choice of appropriate vector is well within the skill of the art. Many such vectors are available commercially. The polynucleotide is inserted into a vector typically by means of DNA ligase attachment to a cleaved restriction enzyme site in the vector. Alternatively, the desired nucleotide sequence may be inserted by homologous recombination in vivo. Typically this is accomplished by attaching regions of homology to the vector on the flanks of the Regions of homology are added by ligation of desired nucleotide sequence. oligonucleotides, or by polymerase chain reaction using primers comprising both the region of homology and a portion of the desired nucleotide sequence, for example.

Polynucleotides are linked to regulatory sequences as appropriate to obtain the desired expression properties. These may include promoters (attached either at the 5' end of the sense strand or at the 3' end of the antisense strand), enhancers, terminators, operators, repressors, and inducers. The promoters may be regulated or constitutive. In some situations it may be desirable to use conditionally active promoters, such as tissue-specific or developmental stage-specific promoters. These are

linked to the desired nucleotide sequence using the techniques described above for linkage to vectors. Any techniques known in the art may be used.

When any of the above host cells, or other appropriate host cells or organisms, are used to replicate and/or express the polynucleotides or nucleic acids of the invention, the resulting replicated nucleic acid, RNA, expressed protein or polypeptide, is within the scope of the invention as a product of the host cell or organism. The product is recovered by any appropriate means known in the art.

Once the gene corresponding to the polypeptide is identified, its expression can be regulated in the cell to which the gene is native. For example, an endogenous gene of a cell can be regulated by an exogenous regulatory sequence as disclosed in U.S. Patent No. 5,641,670, "Protein Production and Protein Delivery."

Ribozymes

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Trans-cleaving catalytic RNAs (ribozymes) are RNA molecules possessing endoribonuclease activity. Ribozymes are specifically designed for a particular target, and the target message must contain a specific nucleotide sequence. They are engineered to cleave any RNA species site-specifically in the background of cellular RNA. The cleavage event renders the mRNA unstable and prevents protein expression. Importantly, ribozymes can be used to inhibit expression of a gene of unknown function for the purpose of determining its function in an in vitro or in vivo context, by detecting the phenotypic effect.

One commonly used ribozyme motif is the hammerhead, for which the substrate sequence requirements are minimal. Design of the hammerhead ribozyme is disclosed in Usman et al., Current Opin. Struct. Biol. (1996) 6:527-533. Usman also discusses the therapeutic uses of ribozymes. Ribozymes can also be prepared and used as described in Long et al., FASEB J. (1993) 7:25; Symons, Ann. Rev. Biochem. (1992) 61:641; Perrotta et al., Biochem. (1992) 31:16-17; Ojwang et al., Proc. Natl. Acad. Sci. (USA) (1992) 89:10802-10806; and U.S. Patent No. 5,254,678. Ribozyme cleavage of HIV-I RNA is described in U.S. Patent No. 5,144,019; methods of cleaving RNA using ribozymes is described in U.S. Patent No. 5,116,742; and methods for increasing the specificity of ribozymes are described in U.S. Patent No. 5,225,337 and Koizumi et al.,

Nucleic Acid Res. (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hammerhead structure are also described by Koizumi et al., Nucleic Acids Res. (1989) 17:7059-7071. Preparation and use of ribozyme fragments in a hairpin structure are described by Chowrira and Burke, Nucleic Acids Res. (1992) 20:2835. Ribozymes can also be made by rolling transcription as described in Daubendiek and Kool, Nat. Biotechnol. (1997) 15(3):273-277.

The hybridizing region of the ribozyme may be modified or may be prepared as a branched structure as described in Horn and Urdea, Nucleic Acids Res. (1989) 17:6959-67. The basic structure of the ribozymes may also be chemically altered in ways familiar to those skilled in the art, and chemically synthesized ribozymes can be administered as synthetic oligonucleotide derivatives modified by monomeric units. In a therapeutic context, liposome mediated delivery of ribozymes improves cellular uptake, as described in Birikh et al., Eur. J. Biochem. (1997) 245:1-16.

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Therapeutic and functional genomic applications of ribozymes proceed beginning with knowledge of a portion of the coding sequence of the gene to be Thus, for many genes, a polynucleotide sequence as disclosed herein provides adequate sequence for constructing an effective ribozyme. A target cleavage site is selected in the target sequence, and a ribozyme is constructed based on the 5' and 3' nucleotide sequences that flank the cleavage site. Retroviral vectors are engineered to express monomeric and multimeric hammerhead ribozymes targeting the mRNA of the target coding sequence. These monomeric and multimeric ribozymes are tested in vitro for an ability to cleave the target mRNA. A cell line is stably transduced with the retroviral vectors expressing the ribozymes, and the transduction is confirmed by 25 Northern blot analysis and reverse-transcription polymerase chain reaction (RT-PCR). The cells are screened for inactivation of the target mRNA by such indicators as reduction of expression of disease markers or reduction of the gene product of the target mRNA.

<u>Antisense</u>

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Antisense nucleic acids are designed to specifically bind to RNA, resulting in the formation of RNA-DNA or RNA-RNA hybrids, with an arrest of DNA replication, reverse transcription or messenger RNA translation. Antisense polynucleotides based on a selected sequence can interfere with expression of the corresponding gene. Antisense polynucleotides are typically generated within the cell by expression from antisense constructs that contain the antisense EST strand as the transcribed strand. Antisense polynucleotides will bind and/or interfere with the translation of the corresponding mRNA. The expression products of control cells and cells treated with the antisense construct are compared to detect the protein product of the gene corresponding to the polynucleotide. The protein is isolated and identified using routine biochemical methods.

Antisense therapy for a variety of cancers is in clinical phase and has been discussed extensively in the literature. Reed reviewed antisense therapy directed at the Bcl-2 gene in tumors; gene transfer-mediated overexpression of Bcl-2 in tumor cell lines conferred resistance to many types of cancer drugs. (Reed, J.C., N.C.I. (1997) 89:988-990). The potential for clinical development of antisense inhibitors of ras is discussed by Cowsert, L.M., Anti-Cancer Drug Design (1997) 12:359-371. Additional important antisense targets include leukemia (Geurtz, A.M., Anti-Cancer Drug Design (1997) 12:341-358); human C-ref kinase (Monia, B.P., Anti-Cancer Drug Design (1997) 12:327-339); and protein kinase C (McGraw et al., Anti-Cancer Drug Design (1997) 12:315-326.

Given the extensive background literature and clinical experience in antisense therapy, one skilled in the art can use selected polynucleotides of the invention as additional potential therapeutics. The choice of polynucleotide can be narrowed by first testing them for binding to "hot spot" regions of the genome of cancerous cells. If a polynucleotide is identified as binding to a "hot spot", testing the polynucleotide as an antisense compound in the corresponding cancer cells clearly is warranted.

Ogunbiyi et al., Gastroenterology (1997) 113(3):761-766 describe prognostic use of allelic loss in colon cancer; Barks et al., Genes, Chromosomes, and

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Cancer (1997) 19(4):278-285 describe increased chromosome copy number detected by FISH in malignant melanoma; Nishizake et al., Genes, Chromosomes, and Cancer (1997) 19(4):267-272 describe genetic alterations in primary breast cancer and their metastases and direct comparison using modified comparative genome hybridization; and Elo et al., Cancer Research (1997) 57(16):3356-3359 disclose that loss of heterozygosity at 16z24.1-q24.2 is significantly associated with metastatic and aggressive behavior of prostate cancer.

Dominant Negative Mutations

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Dominant negative mutations are readily generated for corresponding proteins that are active as homomultimers. A mutant polypeptide will interact with wild-type polypeptides (made from the other allele) and form a non-functional multimer. Thus, a mutation is in a substrate-binding domain, a catalytic domain, or a cellular localization domain. Preferably, the mutant polypeptide will be overproduced. Point mutations are made that have such an effect. In addition, fusion of different polypeptides of various lengths to the terminus of a protein can yield dominant negative mutants. General strategies are available for making dominant negative mutants. See Herskowitz, *Nature* (1987) 329:219-222. Such a technique can be used for creating a loss of function mutation, which is useful for determining the function of a protein.

<u>Identification of Secreted and Membrane-Bound Polypeptides</u>

Both secreted and membrane-bound polypeptides of the present invention are of interest. For example, levels of secreted polypeptides can be assayed conveniently in body fluids, such as blood, urine, prostatic fluid and semen. Membrane-bound polypeptides are useful for constructing vaccine antigens or inducing an immune response. Such antigens would comprise all or part of the extracellular region of the membrane-bound polypeptides.

Because both secreted and membrane-bound polypeptides comprise a fragment of contiguous hydrophobic amino acids, hydrophobicity predicting algorithms can be used to identify such polypeptides.

A signal sequence is usually encoded by both secreted and membranebound polypeptide genes to direct a polypeptide to the surface of the cell. The signal

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sequence usually comprises a stretch of hydrophobic residues. Such signal sequences can fold into helical structures.

Membrane-bound polypeptides typically comprise at least one transmembrane region that possesses a stretch of hydrophobic amino acids that can transverse the membrane. Some transmembrane regions also exhibit a helical structure.

Hydrophobic fragments within a polypeptide can be identified by using computer algorithms. Such algorithms include Hopp & Woods, <u>Proc. Natl. Acad. Sci. USA 78</u>: 3824-3828 (1981); Kyte & Doolittle, <u>J. Mol. Biol. 157</u>: 105-132 (1982); and RAOAR algorithm, Degli Esposti *et al.*, <u>Eur. J. Biochem. 190</u>: 207-219 (1990).

Another method of identifying secreted and membrane-bound polypeptides is to translate the present polynucleotides, SEQ ID NO:1-339, in all six frames and determine if at least 8 contiguous hydrophobic amino acids are present. Those translated polypeptides with at least 8; more typically, 10; even more typically, 12 contiguous hydrophobic amino acids are considered to be either a putative secreted or membrane bound polypeptide. Hydrophobic amino acids include alanine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, threonine, tryptophan, tyrosine, and valine.

Putative secreted and/or membrane-bound polypeptides are encoded by the sequences of the following clones: SL-5, SL-6, SL-9, SL-11, SL-13, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, and SL-177.

Construction of Polypeptides of the Invention and Variants Thereof

The polypeptides of the invention include those encoded by the disclosed polynucleotides. These polypeptides can also be encoded by nucleic acids that, by virtue of the degeneracy of the genetic code, are not identical in sequence to the disclosed polynucleotides. Thus, the invention includes within its scope nucleic acids comprising polynucleotides encoding a protein or polypeptide expressed by a polynucleotide having the sequence of any one of SEQ ID NO:1-339. Also within the scope of the invention are variants; variants of polypeptides include mutants, fragments, and fusions. Mutants can include amino acid substitutions, additions or deletions. The amino acid substitutions can be conservative amino acid substitutions or substitutions to

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eliminate non-essential amino acids, such as to alter a glycosylation site, a phosphorylation site or an acetylation site, or to minimize misfolding by substitution or deletion of one or more cysteine residues that are not necessary for function. Conservative amino acid substitutions are those that preserve the general charge, hydrophobicity/hydrophilicity, and/or steric bulk of the amino acid substituted. For example, substitutions between the following groups are conservative: Gly/Ala, Val/Ile/Leu, Asp/Glu, Lys/Arg, Asn/Gln, Ser/Cys,Thr, and Phe/Trp/Tyr.

Cysteine-depleted muteins are variants within the scope of the invention. These variants can be constructed according to methods disclosed in U.S. Patent No. 4,959,314, "Cysteine-Depleted Muteins of Biologically Active Proteins." The patent discloses how to substitute other amino acids for cysteines, and how to determine biological activity and effect of the substitution. Such methods are suitable for proteins according to this invention that have cysteine residues suitable for such substitutions, for example to eliminate disulfide bond formation.

The protein variants described herein are encoded by polynucleotides that are within the scope of the invention. The genetic code can be used to select the appropriate codons to construct the corresponding variants.

The invention encompasses polynucleotide sequences having at least 65% sequence identity to any one of SEQ ID NOs:1-339 as determined by the Smith-Waterman homology search algorithm as implemented in MSPRCH program (Oxford Molecular) using an affine gap search with the following search parameters: gap open penalty of 12, and gap extension penalty of 1.

Use of the Polynucleotides as Probes, in Mapping, and in Tissue Profiling

Probes

Polynucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence of a polynucleotide of SEQ ID NO:1-339 are used for a variety of purposes, including identification of human chromosomes and determining transcription levels.

The nucleotide probes are labeled, for example, with a radioactive, fluorescent, biotinylated, or chemiluminescent label, and detected by well known

methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations which are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to a polynucleotide should provide a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with other unrelated sequences.

In a non-limiting example, commercial programs are available for identifying regions of chromosomes commonly associated with disease, such as cancer. Polynucleotides of the invention can be used to probe these regions. For example, if through profile searching a polynucleotide is identified as corresponding to a gene encoding a kinase, its ability to bind to a cancer-related chromosomal region will suggest its role as a kinase in one or more stages of tumor cell development/growth. Although some experimentation would be required to elucidate the role, the polynucleotide constitutes a new material for isolating a specific protein that has potential for developing a cancer diagnostic or therapeutic.

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Nucleotide probes are used to detect expression of a gene corresponding to the polynucleotide. For example, in Northern blots, mRNA is separated electrophoretically and contacted with a probe. A probe is detected as hybridizing to an mRNA species of a particular size. The amount of hybridization is quantitated to determine relative amounts of expression, for example under a particular condition. Probes are also used to detect products of amplification by polymerase chain reaction. The products of the reaction are hybridized to the probe and hybrids are detected. Probes are used for in situ hybridization to cells to detect expression. Probes can also be used in vivo for diagnostic detection of hybridizing sequences. Probes are typically labeled with a radioactive isotope. Other types of detectable labels may be used such as chromophores, fluors, and enzymes.

Expression of specific mRNA can vary in different cell types and can be tissue specific. This variation of mRNA levels in different cell types can be exploited with nucleic acid probe assays to determine tissue types. For example, PCR, branched DNA probe assays, or blotting techniques utilizing nucleic acid probes substantially

identical or complementary to polynucleotides listed in the Sequence Listing can determine the presence or absence of cDNA or mRNA related to the polynucleotides of the invention.

Examples of a nucleotide hybridization assay are described in Urdea *et al.*, PCT WO92/02526 and Urdea *et al.*, U.S. Patent No. 5,124,246, both incorporated herein by reference. The references describe an example of a sandwich nucleotide hybridization assay.

Alternatively, the Polymerase Chain Reaction (PCR) is another means for detecting small amounts of target nucleic acids, as described in Mullis *et al.*, *Meth. Enzymol.* (1987) 155:335-350; U.S. Patent No. 4,683,195; and U.S. Patent No. 4,683,202, all incorporated herein by reference. Two primer polynucleotides nucleotides hybridize with the target nucleic acids and are used to prime the reaction. The primers may be composed of sequence within or 3' and 5' to the polynucleotides of the Sequence Listing. Alternatively, if the primers are 3' and 5' to these polynucleotides, they need not hybridize to them or the complements. A thermostable polymerase creates copies of target nucleic acids from the primers using the original target nucleic acids as a template. After a large amount of target nucleic acids is generated by the polymerase, it is detected by methods such as Southern blots. When using the Southern blot method, the labeled probe will hybridize to a polynucleotide of the Sequence Listing or complement.

Furthermore, mRNA or cDNA can be detected by traditional blotting techniques described in Sambrook *et al.*, "Molecular Cloning: A Laboratory Manual" (New York, Cold Spring Harbor Laboratory, 1989). mRNA or cDNA generated from mRNA using a polymerase enzyme can be purified and separated using gel electrophoresis. The nucleic acids on the gel are then blotted onto a solid support, such as nitrocellulose. The solid support is exposed to a labeled probe and then washed to remove any unhybridized probe. Next, the duplexes containing the labeled probe are detected. Typically, the probe is labeled with radioactivity.

Mapping

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Polynucleotides of the present invention are used to identify a chromosome on which the corresponding gene resides. Using fluorescence in situ hybridization (FISH) on normal metaphase spreads, comparative genomic hybridization allows total genome assessment of changes in relative copy number of DNA sequences. See Schwartz and Samad, Current Opinions in Biotechnology (1994) 8:70-74; Kallioniemi et al., Seminars in Cancer Biology (1993) 4:41-46; Valdes and Tagle, Methods in Molecular Biology (1997) 68:1, Boultwood, ed., Human Press, Totowa, NJ.

Preparations of human metaphase chromosomes are prepared using standard cytogenetic techniques from human primary tissues or cell lines. Nucleotide probes comprising at least 12 contiguous nucleotides selected from the nucleotide sequence shown in the Sequence Listing are used to identify the corresponding chromosome. The nucleotide probes are labeled, for example, with a radioactive, fluorescent, biotinylated, or chemiluminescent label, and detected by well known methods appropriate for the particular label selected. Protocols for hybridizing nucleotide probes to preparations of metaphase chromosomes are also well known in the art. A nucleotide probe will hybridize specifically to nucleotide sequences in the chromosome preparations that are complementary to the nucleotide sequence of the probe. A probe that hybridizes specifically to a polynucleotide-related gene provides a 20 detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with non-EST coding sequences.

Polynucleotides are mapped to particular chromosomes using, for example, radiation hybrids or chromosome-specific hybrid panels. See Leach et al., Advances in Genetics, (1995) 33:63-99; Walter et al., Nature Genetics (1994) 7:22-28; Walter and Goodfellow, Trends in Genetics (1992) 9:352. Such mapping can be useful in identifying the function of the polynucleotide-related gene by its proximity to other genes with known function. Function can also be assigned to the related gene when particular syndromes or diseases map to the same chromosome.

Tissue Profiling

30 The polynucleotides of the present invention can be used to determine the tissue type from which a given sample is derived. For example, a metastatic lesion

is identified by its developmental organ or tissue source by identifying the expression of a particular marker of that organ or tissue. If a polynucleotide is expressed only in a specific tissue type, and a metastatic lesion is found to express that polynucleotide, then the developmental source of the lesion has been identified. Expression of a particular polynucleotide is assayed by detection of either the corresponding mRNA or the protein product. Immunological methods, such as antibody staining, are used to detect a particular protein product. Hybridization methods may be used to detect particular mRNA species, including but not limited to in situ hybridization and Northern blotting.

Use of Polymorphisms

A polynucleotide will be useful in forensics, genetic analysis, mapping, and diagnostic applications if the corresponding region of a gene is polymorphic in the human population. A particular polymorphic form of the polynucleotide may be used to either identify a sample as deriving from a suspect or rule out the possibility that the sample derives from the suspect. Any means for detecting a polymorphism in a gene are used, including but not limited to electrophoresis of protein polymorphic variants, differential sensitivity to restriction enzyme cleavage, and hybridization to an allele-specific probe.

Use of Polynucleotides to Raise Antibodies

Expression products of a polynucleotide, the corresponding mRNA or cDNA, or the corresponding complete gene are prepared and used for raising antibodies for experimental, diagnostic, and therapeutic purposes. The polynucleotide or related cDNA is expressed as described above, and antibodies are prepared. These antibodies are specific to an epitope on the polynucleotide-encoded polypeptide, and can precipitate or bind to the corresponding native protein in a cell or tissue preparation or in a cell-free extract of an in vitro expression system.

Immunogens for raising antibodies are prepared by mixing the polypeptides encoded by the polynucleotide of the present invention with adjuvants. Alternatively, polypeptides are made as fusion proteins to larger immunogenic proteins. Polypeptides are also covalently linked to other larger immunogenic proteins, such as keyhole limpet hemocyanin. Immunogens are typically administered intradermally,

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subcutaneously, or intramuscularly. Immunogens are administered to experimental animals such as rabbits, sheep, and mice, to generate antibodies. Optionally, the animal spleen cells are isolated and fused with myeloma cells to form hybridomas which secrete monoclonal antibodies. Such methods are well known in the art. According to another method known in the art, the polynucleotide is administered directly, such as by intramuscular injection, and expressed in vivo. The expressed protein generates a variety of protein-specific immune responses, including production of antibodies, comparable to administration of the protein.

Preparations of polyclonal and monoclonal antibodies specific for polynucleotide-encoded proteins and polypeptides are made using standard methods known in the art. The antibodies specifically bind to epitopes present in the polypeptides encoded by polynucleotides disclosed in the Sequence Listing. Typically, at least 6, 8, 10, or 12 contiguous amino acids are required to form an epitope. However, epitopes which involve non-contiguous amino acids may require more, for example at least 15, 25, or 50 amino acids. A short sequence of a polynucleotide may then be unsuitable for use as an epitope to raise antibodies for identifying the corresponding novel protein, because of the potential for cross-reactivity with a known protein. However, the antibodies may be useful for other purposes, particularly if they identify common structural features of a known protein and a novel polypeptide encoded by a polynucleotide of the invention.

Antibodies that specifically bind to human polynucleotide-encoded polypeptides should provide a detection signal at least 5-, 10-, or 20-fold higher than a detection signal provided with other proteins when used in Western blots or other immunochemical assays. Preferably, antibodies that specifically bind polypeptides do not detect other proteins in immunochemical assays and can immunoprecipitate EST-encoded proteins from solution. For such immunoassays, any type of samples can be used, including tissue, organs, cells, urine, blood, prostatic fluid or semen.

Of interest are antibodies to the secreted polypeptides encoded by the present polynucleotide sequences, SEQ ID NO:1-339. Antibodies to secreted polypeptides can be used to test body fluids, such as blood, urine, prostatic fluid and semen.

To test for the presence of serum antibodies to the polypeptide in a human population, human antibodies are purified by methods well known in the art. Preferably, the antibodies are affinity purified by passing antiserum over a column to which a protein, polypeptide, or fusion protein is bound. The bound antibodies can then be eluted from the column, for example using a buffer with a high salt concentration.

In addition to the antibodies discussed above, genetically engineered antibody derivatives are made, such as single chain antibodies or humanized antibodies.

Antibodies to the polypeptides encoded by one or more of SEQ ID NO:1-339 also are contemplated for therapeutic compositions and uses. For example, antibodies directed to membrane-bound polypeptides that are up-regulated in cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations can be constructed. Antibodies can provide a useful therapeutic in inhibiting cell growth or inducing an immune reaction to cancer, tumor, or hyperproliferating cells. Typically, such antibodies are directed the extracellular regions of the membrane-bound polypeptide. The borders of such regions can be determined by identifying the location of the hydrophobic transmembrane fragment(s) in the encoded polypeptides of the present invention.

Exemplary antibodies were prepared using two sequences from clone SL-5: H₂N-CGPRLPSFPCPTHEPSTGQLSK-CONH₂ and H₂N-CKDSQGLSDFKR-NSRTTRRSYKCCONH₂. Using polyclonal antibodies raised against a mixture of these polypeptides, immunohistochemistry was performed on a variety of tumor tissues and corresponding normal tissue. The results are shown in Figure 3, and discussed in the Examples. These polypeptides are useful for detecting a higher level of expression of clone SL-5 in tumor tissues.

25 Use of Polynucleotides to Construct Arrays for Diagnostics

The present polynucleotide sequences and gene products are useful for determining the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations. Specifically, the polynucleotides and encoded polypeptides of the instant invention can be utilized to

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determine the occurrence of prostatic disorders, such as BPH or localized prostate cancer.

A number of prostatic disorders exist, including adenocarcinoma, BPH, histologic prostate cancer, prostatic intraepithelial neoplasia, clinical prostate cancer, incidental prostate cancer, and localized prostate cancer. BPH is a common prostatic disorder in men which becomes clinically manifest usually after age fifty. In BPH, hyperplastic growth of prostatic cells in the periurethral glandular tissue in the central zone of the prostate gland cause an enlarged prostate which can compress or elongate the urethra and produce symptoms of urethral obstruction that may progress to urinary retention or to a constellation of symptoms known as prostatism. A host of physical manifestations can accompany prostatic disorders including: impotency, reduced urinary flow, hesitancy in initiating voiding, postvoid dribbling, a sensation of incomplete bladder emptying, and development of bladder or high urinary tract infections.

To determine the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations, the levels of polynucleotides and/or encoded polypeptides of the present invention in a sample are compared to the levels in a normal control of body tissues, cells, organs, or fluids. The normal control can include a pool of cells from a particular organ or tissue or tissues and/or cells from throughout the body. Either the immunoassays described above or the nucleic acid assays described below can be used for such measurements.

Any observed difference between the sample and normal control can indicate the occurrence of disease or disorder. Typically, if the levels of the polynucleotides and the encoded polypeptides of the present invention are higher than those found in the normal control, the results indicate the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations.

In addition, the present polynucleotides can be useful to diagnose the severity as well as the occurrence of cancer, tumor progression, hyperproliferative growth, and/or accompanying biological or physical manifestations, including prostatic disorders. For example, the greater the difference observed in the sample versus the

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normal control of the present polynucleotides or encoded polypeptides, the greater the severity of the disorder, in particular, when higher levels as compared to a normal control are observed.

The present polynucleotides, as shown in SEQ ID NO:1-339, were expressed at higher levels in a prostate cancer cell line versus a normal prostate epithelial cell line.

Polynucleotide arrays provide a high throughput technique that can assay a large number of polynucleotide sequences in a sample. This technology can be used as a diagnostic and as a tool to test for differential expression to determine function of an encoded protein.

To create arrays, polynucleotide probes are spotted onto a substrate in a two-dimensional matrix or array. Samples of polynucleotides can be labeled and then hybridized to the probes. Double stranded polynucleotides, comprising the labeled sample polynucleotides bound to probe polynucleotides, can be detected once the unbound portion of the sample is washed away.

The probe polynucleotides can be spotted on substrates including glass, nitrocellulose, etc. The probes can be bound to the substrate by either covalent bonds or by non-specific interactions, such as hydrophobic interactions. The sample polynucleotides can be labeled using radioactive labels, fluorophors, etc.

Techniques for constructing arrays and methods of using these arrays are described in EP No. 0 799 897; PCT No. WO 97/29212; PCT No. WO 97/27317; EP No. 0 785 280; PCT No. WO 97/02357; U.S. Pat. No. 5,593,839; U.S. Pat. No. 5,578,832; EP No. 0 728 520; U.S. Pat. No. 5,599,695; EP No. 0 721 016; U.S. Pat. No. 5,556,752; PCT No. WO 95/22058; and U.S. Pat. No. 5,631,734.

Further, arrays can be used to examine differential expression of genes and can be used to determine gene function. For example, arrays of the instant polynucleotide sequences can be used to determine if any of the EST sequences are differentially expressed between normal cells and cancer cells, for example. High expression of a particular message in a cancer cell, which is not observed in a corresponding normal cell, can indicate a cancer specific protein.

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Differential Expression

The present invention also provides a method to identify abnormal or diseased tissue in a human. For polynucleotides corresponding to profiles of protein families as described above, the choice of tissue may be dictated by the putative biological function. The expression of a gene corresponding to a specific polynucleotide is compared between a first tissue that is suspected of being diseased and a second, normal tissue of the human. The normal tissue is any tissue of the human, especially those that express the polynucleotide-related gene including, but not limited to, brain, thymus, testis, heart, prostate, placenta, spleen, small intestine, skeletal muscle, pancreas, and the mucosal lining of the colon.

The polynucleotide-related genes in the two tissues are compared by any means known in the art. For example, the two genes are sequenced, and the sequence of the gene in the tissue suspected of being diseased is compared with the gene sequence in the normal tissue. The polynucleotide-related genes, or portions thereof, in the two tissues are amplified, for example using nucleotide primers based on the nucleotide sequence shown in the Sequence Listing, using the polymerase chain reaction. The amplified genes or portions of genes are hybridized to nucleotide probes selected from the same nucleotide sequence shown in the Sequence Listing. A difference in the nucleotide sequence of the polynucleotide-related gene in the tissue suspected of being diseased compared with the normal nucleotide sequence suggests a role of the polynucleotide-encoded proteins in the disease, and provides a lead for preparing a therapeutic agent. The nucleotide probes are labeled by a variety of methods, such as radiolabeling, biotinylation, or labeling with fluorescent or chemiluminescent tags, and detected by standard methods known in the art.

Alternatively, polynucleotide-related mRNA in the two tissues is compared. PolyA+RNA is isolated from the two tissues as is known in the art. For example, one of skill in the art can readily determine differences in the size or amount of polynucleotide-related mRNA transcripts between the two tissues using Northern blots and nucleotide probes selected from the nucleotide sequence shown in the Sequence Listing. Increased or decreased expression of an polynucleotide-related mRNA in a tissue sample suspected of being diseased, compared with the expression of

the same polynucleotide-related mRNA in a normal tissue, suggests that the expressed protein has a role in the disease, and also provides a lead for preparing a therapeutic agent.

Any method for analyzing proteins is used to compare two polynucleotide-encoded proteins from matched samples. The sizes of the proteins in the two tissues are compared, for example, using antibodies of the present invention to detect polynucleotide-encoded proteins in Western blots of protein extracts from the two tissues. Other changes, such as expression levels and subcellular localization, can also be detected immunologically, using antibodies to the corresponding protein. A higher or lower level of polynucleotide-encoded protein expression in a tissue suspected of being diseased, compared with the same polynucleotide-encoded protein expression level in a normal tissue, is indicative that the expressed protein has a role in the disease, and provides another lead for preparing a therapeutic agent.

Similarly, comparison of polynucleotide gene sequences or of polynucleotide gene expression products, e.g., mRNA and protein, between a human tissue that is suspected of being diseased and a normal tissue of a human, are used to follow disease progression or remission in the human. Such comparisons of polynucleotide-related genes, mRNA, or protein are made as described above.

For example, increased or decreased expression of the polynucleotide-related gene in the tissue suspected of being neoplastic can indicate the presence of neoplastic cells in the tissue. The degree of increased expression of the polynucleotide gene in the neoplastic tissue relative to expression of the gene in normal tissue, or differences in the amount of increased expression of the polynucleotide gene in the neoplastic tissue over time, is used to assess the progression of the neoplasia in that tissue or to monitor the response of the neoplastic tissue to a therapeutic protocol over time. The expression pattern of any two cell types can be compared, such as low and high metastatic tumor cell lines, or cells from tissue which have and have not been exposed to a therapeutic agent.

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Screening for Peptide Analogs and Antagonists

Polypeptides encoded by the instant polynucleotides and corresponding full length genes can be used to screen peptide libraries to identify binding partners, such as receptors, from among the encoded polypeptides.

Such binding partners can be useful in treating cancer, tumor progression, hyperproliferative cell growth, and/or accompanying biological or physical manifestations. For example, peptides or other compounds that are capable of binding or interacting with membrane-bound polypeptides encoded by one or more of SEQ ID NO:1-339, can be useful as a therapeutic. Also, peptides or other compounds capable of altering the conformation of any of the encoded polypeptides by one or more of SEQ ID NO:1-339 can inhibit biological activity and be useful as a therapeutic.

A library of peptides may be synthesized following the methods disclosed in U.S. Pat. No. 5,010,175, and in PCT WO91/17823.

Peptide agonists or antagonists are screened using any available method, such as signal transduction, antibody binding, receptor binding, mitogenic assays, chemotaxis assays, etc. The methods described herein are presently preferred. The assay conditions ideally should resemble the conditions under which the native activity is exhibited *in vivo*, that is, under physiologic pH, temperature, and ionic strength. Suitable agonists or antagonists will exhibit strong inhibition or enhancement of the native activity at concentrations that do not cause toxic side effects in the subject. Agonists or antagonists that compete for binding to the native polypeptide may require concentrations equal to or greater than the native concentration, while inhibitors capable of binding irreversibly to the polypeptide may be added in concentrations on the order of the native concentration.

The end results of such screening and experimentation will be at least one novel polypeptide binding partner, such as a receptor, encoded by a cDNA polynucleotide or gene of the invention, and at least one peptide agonist or antagonist of the novel binding partner. Such agonists and antagonists can be used to modulate, enhance, or inhibit receptor function in cells to which the receptor is native, or in cells that possess the receptor as a result of genetic engineering. Further, if the novel receptor shares biologically important characteristics with a known receptor,

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information about agonist/antagonist binding may help in developing improved agonists/antagonists of the known receptor.

Therapeutics, whether polynucleotide or polypeptide or small molecule, can be tested, for example, in the mouse tumor assay described in Pei *et al.*, <u>Mol. Endo.</u> 11: 433-441 (1997).

Other models for testing polynucleotides, polypeptides, antibodies, or small molecules useful for treatment include: animal models and cell lines disclosed in Bosland, *Encyclopedia of Cancer*, Volume II, pages 1283 to 1296 (1997) by Academic Press. Other useful cell lines are described in Brothman, *Encyclopedia of Cancer*, Volume II, pages 1303 to 1313 (1997) by Academic Press

Pharmaceutical Compositions and Therapeutic Uses

Pharmaceutical compositions can comprise polypeptides, antibodies, or polynucleotides of the claimed invention. The pharmaceutical compositions will comprise a therapeutically effective amount of either polypeptides, antibodies, or polynucleotides of the claimed invention.

The term "therapeutically effective amount" as used herein refers to an amount of a therapeutic agent to treat, ameliorate, or prevent a desired disease or condition, or to exhibit a detectable therapeutic or preventative effect. The effect can be detected by, for example, chemical markers or antigen levels. Therapeutic effects also include reduction in physical symptoms, such as decreased body temperature. The precise effective amount for a subject will depend upon the subject's size and health, the nature and extent of the condition, and the therapeutics or combination of therapeutics selected for administration. Thus, it is not useful to specify an exact effective amount in advance. However, the effective amount for a given situation can be determined by routine experimentation and is within the judgment of the clinician. Specifically, the compositions of the present invention can be used to treat, ameliorate, modulate, or prevent cancer, tumor progression, hyperproliferative cell growth and/or accompanying biological or physical manifestations, including prostatic disorders.

WO 99/64594 PCT/US99/13181

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For purposes of the present invention, an effective dose will be from about 0.01 mg/kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg of the polynucleotide, polypeptide or antibody compositions in the individual to which it is administered.

A pharmaceutical composition can also contain a pharmaceutically acceptable carrier. The term "pharmaceutically acceptable carrier" refers to a carrier for administration of a therapeutic agent, such as antibodies or a polypeptide, genes, and other therapeutic agents. The term refers to any pharmaceutical carrier that does not itself induce the production of antibodies harmful to the individual receiving the composition, and which may be administered without undue toxicity. Suitable carriers may be large, slowly metabolized macromolecules such as proteins, polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, and inactive virus particles. Such carriers are well known to those of ordinary skill in the art.

Pharmaceutically acceptable salts can be used therein, for example, mineral acid salts such as hydrochlorides, hydrobromides, phosphates, sulfates, and the like; and the salts of organic acids such as acetates, propionates, malonates, benzoates, and the like. A thorough discussion of pharmaceutically acceptable excipients is available in *Remington's Pharmaceutical Sciences* (Mack Pub. Co., N.J. 1991).

Pharmaceutically acceptable carriers in therapeutic compositions may contain liquids such as water, saline, glycerol and ethanol. Additionally, auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, may be present in such vehicles. Typically, the therapeutic compositions are prepared as injectables, either as liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection may also be prepared.

Liposomes are included within the definition of a pharmaceutically acceptable carrier.

Delivery Methods

Once formulated, the polynucleotide compositions of the invention can be (1) administered directly to the subject; (2) delivered ex vivo, to cells derived from the subject; or (3) delivered in vitro for expression of recombinant proteins.

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Direct delivery of the compositions will generally be accomplished by injection, either subcutaneously, intraperitoneally, intravenously or intramuscularly, or delivered to the interstitial space of a tissue. The compositions can also be administered into a tumor or lesion. Other modes of administration include oral and pulmonary administration, suppositories, and transdermal applications, needles, and gene guns or hyposprays. Dosage treatment may be a single dose schedule or a multiple dose schedule.

Methods for the ex vivo delivery and reimplantation of transformed cells into a subject are known in the art and described in e.g., International Publication No. WO 93/14778. Examples of cells useful in ex vivo applications include, for example, stem cells, particularly hematopoetic, lymph cells, macrophages, dendritic cells, or tumor cells.

Generally, delivery of nucleic acids for both ex vivo and in vitro applications can be accomplished by, for example, dextran-mediated transfection, calcium phosphate precipitation, polybrene mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct microinjection of the DNA into nuclei, all well known in the art.

If a polynucleotide-related gene correlates with a proliferative disorder, such as neoplasia, dysplasia, and hyperplasia, the disorder may be amenable to treatment by administration of a therapeutic agent based on the polynucleotide or corresponding polypeptide.

Preparation of antisense polypeptides is discussed above. Neoplasias that are treated with the antisense composition include, but are not limited to, cervical cancers, melanomas, colorectal adenocarcinomas, Wilms' tumor, retinoblastoma, sarcomas, myosarcomas, lung carcinomas, leukemias, such as chronic myelogenous leukemia, promyelocytic leukemia, monocytic leukemia, and myeloid leukemia, and lymphomas, such as histiocytic lymphoma. Proliferative disorders that are treated with the therapeutic composition include disorders such as anhydric hereditary ectodermal dysplasia, congenital alveolar dysplasia, epithelial dysplasia of the cervix, fibrous dysplasia of bone, and mammary dysplasia. Hyperplasias, for example, endometrial, adrenal, breast, prostate, or thyroid hyperplasias or pseudoepitheliomatous hyperplasia

of the skin, are treated with antisense therapeutic compositions. Even in disorders in which mutations in the corresponding gene are not implicated, downregulation or inhibition of gene expression can have therapeutic application. For example, decreasing gene expression can help to suppress tumors in which enhanced expression of the gene is implicated.

Both the dose of the antisense composition and the means of administration are determined based on the specific qualities of the therapeutic composition, the condition, age, and weight of the patient, the progression of the disease, and other relevant factors. Administration of the therapeutic antisense agents of the invention includes local or systemic administration, including injection, oral administration, particle gun or catheterized administration, and topical administration. Preferably, the therapeutic antisense composition contains an expression construct comprising a promoter and a polynucleotide segment of at least 12, 22, 25, 30, or 35 contiguous nucleotides of the antisense strand. Within the expression construct, the polynucleotide segment is located downstream from the promoter, and transcription of the polynucleotide segment initiates at the promoter.

Various methods are used to administer the therapeutic composition directly to a specific site in the body. For example, a small metastatic lesion is located and the therapeutic composition injected several times in several different locations within the body of tumor. Alternatively, arteries which serve a tumor are identified, and the therapeutic composition injected into such an artery, in order to deliver the composition directly into the tumor. A tumor that has a necrotic center is aspirated and the composition injected directly into the now empty center of the tumor. The antisense composition is directly administered to the surface of the tumor, for example, by topical application of the composition. X-ray imaging is used to assist in certain of the above delivery methods.

Receptor-mediated targeted delivery of therapeutic compositions containing an antisense polynucleotide, subgenomic polynucleotides, or antibodies to specific tissues is also used. Receptor-mediated DNA delivery techniques are described in, for example, Findeis et al., Trends in Biotechnol. (1993) 11:202-205; Chiou et al., (1994) Gene Therapeutics: Methods And Applications Of Direct Gene Transfer (J.A.

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Wolff, ed.); Wu & Wu, J. Biol. Chem. (1988) 263:621-24; Wu et al., J. Biol. Chem. (1994) 269:542-46; Zenke et al., Proc. Natl. Acad. Sci. (USA) (1990) 87:3655-59; Wu et al., J. Biol. Chem. (1991) 266:339-42. Preferably, receptor-mediated targeted delivery of therapeutic compositions containing antibodies of the invention is used to deliver the antibodies to specific tissue.

subgenomic containing antisense Therapeutic compositions polynucleotides are administered in a range of about 100 ng to about 200 mg of polynucleotides for local administration in a gene therapy protocol. Concentration ranges of about 500 ng to about 50 mg, about 1 µg to about 2 mg, about 5 µg to about 500 µg, and about 20 µg to about 100 µg of polynucleotides can also be used during a gene therapy protocol. Factors such as method of action and efficacy of transformation and expression are considerations which will affect the dosage required for ultimate efficacy of the antisense subgenomic polynucleotides. Where greater expression is desired over a larger area of tissue, larger amounts of EST antisense subgenomic polynucleotides or the same amounts readministered in a successive protocol of administrations, or several administrations to different adjacent or close tissue portions of, for example, a tumor site, may be required to effect a positive therapeutic outcome. In all cases, routine experimentation in clinical trials will determine specific ranges for optimal therapeutic effect. A more complete description of gene therapy vectors, especially retroviral vectors, is contained in U.S. Serial No. 08/869,309, which is expressly incorporated herein, and in section G below.

For genes encoding polypeptides or proteins with anti-inflammatory activity, suitable use, doses, and administration are described in U.S. Patent No. 5,654,173, incorporated herein by reference. Therapeutic agents also include antibodies to proteins and polypeptides, as described in U.S. Patent No. 5,654,173.

Gene Therapy

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The therapeutic polynucleotides and polypeptides of the present invention may be utilized in gene delivery vehicles. The gene delivery vehicle may be of viral or non-viral origin (see generally, Jolly, Cancer Gene Therapy (1994) 1:51-64; Kimura, Human Gene Therapy (1994) 5:845-852; Connelly, Human Gene Therapy

(1995) 1:185-193; and Kaplitt, Nature Genetics (1994) 6:148-153). Gene therapy vehicles for delivery of constructs including a coding sequence of a therapeutic of the invention can be administered either locally or systemically. These constructs can utilize viral or non-viral vector approaches. Expression of such coding sequences can be induced using endogenous mammalian or heterologous promoters. Expression of the coding sequence can be either constitutive or regulated.

The present invention can employ recombinant retroviruses which are constructed to carry or express a selected nucleic acid molecule of interest. Retrovirus vectors that can be employed include those described in EP 0 415 731; WO 90/07936; WO 94/03622; WO 93/25698; WO 93/25234; U.S. Patent No. 5, 219,740; WO 93/11230; WO 93/10218; Vile and Hart, Cancer Res. (1993) 53:3860-3864; Vile and Hart, Cancer Res. (1993) 53:962-967; Ram et al., Cancer Res. (1993) 53:83-88; Takamiya et al., J. Neurosci. Res. (1992) 33:493-503; Baba et al., J. Neurosurg. (1993) 79:729-735; U.S. Patent no. 4,777,127; GB Patent No. 2,200,651; and EP 0 345 242. Preferred recombinant retroviruses include those described in WO 91/02805.

Packaging cell lines suitable for use with the above-described retroviral vector constructs may be readily prepared (see PCT publications WO 95/30763 and WO 92/05266), and used to create producer cell lines (also termed vector cell lines) for the production of recombinant vector particles. Within particularly preferred embodiments of the invention, packaging cell lines are made from human (such as HT1080 cells) or mink parent cell lines, thereby allowing production of recombinant retroviruses that can survive inactivation in human serum.

The present invention also employs alphavirus-based vectors that can function as gene delivery vehicles. Such vectors can be constructed from a wide variety of alphaviruses, including, for example, Sindbis virus vectors, Semliki forest virus (ATCC VR-67; ATCC VR-1247), Ross River virus (ATCC VR-373; ATCC VR-1246) and Venezuelan equine encephalitis virus (ATCC VR-923; ATCC VR-1250; ATCC VR 1249; ATCC VR-532). Representative examples of such vector systems include those described in U.S. Patent Nos. 5,091,309; 5,217,879; and 5,185,440; and PCT Publication Nos. WO 92/10578; WO 94/21792; WO 95/27069; WO 95/27044; and WO 95/07994.

Gene delivery vehicles of the present invention can also employ parvovirus such as adeno-associated virus (AAV) vectors. Representative examples include the AAV vectors disclosed by Srivastava in WO 93/09239, Samulski et al., *J. Vir.* (1989) 63:3822-3828; Mendelson et al., *Virol.* (1988) 166:154-165; and Flotte et al., *PNAS* (1993) 90:10613-10617.

Representative examples of adenoviral vectors include those described by Berkner, Biotechniques (1988) 6:616-627; Rosenfeld et al., Science (1991) 252:431-434; WO 93/19191; Kolls et al., PNAS (1994) 91:215-219; Kass-Eisler et al., PNAS (1993) 90:11498-11502; Guzman et al., Circulation (1993) 88:2838-2848; Guzman et al., Cir. Res. (1993) 73:1202-1207; Zabner et al., Cell (1993) 75:207-216; Li et al., Hum. Gene Ther. (1993) 4:403-409; Cailaud et al., Eur. J. Neurosci. (1993) 5:1287-1291; Vincent et al., Nat. Genet. (1993) 5:130-134; Jaffe et al., Nat. Genet. (1992) 1:372-378; and Levrero et al., Gene (1991) 101:195-202. Exemplary adenoviral gene therapy vectors employable in this invention also include those described in WO 94/12649, WO 93/03769; WO 93/19191; WO 94/28938; WO 95/11984 and WO 95/00655. Administration of DNA linked to killed adenovirus as described in Curiel, Hum. Gene Ther. (1992) 3:147-154 may be employed.

Other gene delivery vehicles and methods may be employed, including polycationic condensed DNA linked or unlinked to killed adenovirus alone, for example Curiel, *Hum. Gene Ther.* (1992) 3:147-154; ligand linked DNA, for example see Wu, *J. Biol. Chem.* (1989) 264:16985-16987; eukaryotic cell delivery vehicles cells, for example see U.S. Serial No. 08/240,030, filed May 9, 1994, and U.S. Serial No. 08/404,796; deposition of photopolymerized hydrogel materials; hand-held gene transfer particle gun, as described in U.S. Patent No. 5,149,655; ionizing radiation as described in U.S. Patent No. 5,206,152 and in WO92/11033; nucleic charge neutralization or fusion with cell membranes. Additional approaches are described in Philip, *Mol. Cell Biol.* (1994) 14:2411-2418, and in Woffendin, *Proc. Natl. Acad. Sci.* (1994) 91:1581-1585.

Naked DNA may also be employed. Exemplary naked DNA introduction methods are described in WO 90/11092 and U.S. Patent No. 5,580,859.

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Further non-viral delivery suitable for use includes mechanical delivery systems such as the approach described in Woffendin *et al.*, *Proc. Natl. Acad. Sci. USA* (1994) 91(24):11581-11585.

Computer-Related Embodiments

In general, a library of polynucleotides is a collection of sequence information, which information is provided in either biochemical form (e.g., as a collection of polynucleotide molecules), or in electronic form (e.g., as a collection of polynucleotide sequences stored in a computer-readable form, as in a computer system and/or as part of a computer program). The sequence information of the polynucleotides can be used in a variety of ways, e.g., as a resource for gene discovery, as a representation of sequences expressed in a selected cell type (e.g., cell type markers), and/or as markers of a given disease or disease state. In general, a disease marker is a representation of a gene product that is present in all cells affected by disease either at an increased or decreased level relative to a normal cell (e.g., a cell of the same or similar type that is not substantially affected by disease).

The nucleotide sequence information of the library can be embodied in any suitable form, e.g., electronic or biochemical forms. For example, a library of sequence information embodied in electronic form comprises an accessible computer data file (or, in biochemical form, a collection of nucleic acid molecules) that contains the representative nucleotide sequences of genes that are differentially expressed (e.g., overexpressed or underexpressed) as between, for example, a cancerous cell and a normal cell. Biochemical embodiments of the library include a collection of nucleic acids that have the sequences of the genes in the library, where the nucleic acids can correspond to the entire gene in the library or to a fragment thereof, as described in greater detail below.

The polynucleotide libraries of the subject invention generally comprise sequence information of a plurality of polynucleotide sequences, where at least one of the polynucleotides has a sequence of any of SEQ ID NOs:1-339. By plurality is meant at least 2, usually at least 3 and can include up to all of SEQ ID NOs:1-339. The length and number of polynucleotides in the library will vary with the nature of the library.

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e.g., if the library is an oligonucleotide array, a cDNA array, a computer database of the sequence information, etc.

Where the library is an electronic library, the nucleic acid sequence information can be present in a variety of media. "Media" refers to a manufacture, other than an isolated nucleic acid molecule, that contains the sequence information of the present invention. Such a manufacture provides the genome sequence or a subset thereof in a form that can be examined by means not directly applicable to the sequence as it exists in a nucleic acid. For example, the nucleotide sequence of the present invention, e.g., the nucleic acid sequences of any of the polynucleotides of SEQ ID NOs:1-339, can be recorded on computer readable media, e.g., any medium that can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as a floppy disc, a hard disc storage medium, and a magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. One of skill in the art can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising a recording of the present sequence information. "Recorded" refers to a process for storing information on computer readable medium, using any such methods as known in the art. Any convenient data storage structure can be chosen, based on the means used to access the stored information. A variety of data processor programs and formats can be used for storage, e.g., word processing text file, database format, etc. In addition to the sequence information, electronic versions of the libraries of the invention can be provided in conjunction or connection with other computer-readable information and/or other types of computer-readable files (e.g., searchable files, executable files, etc. including, but not limited to, for example, search program software, etc.).

By providing the nucleotide sequence in computer readable form, the information can be accessed for a variety of purposes. Computer software to access sequence information is publicly available. For example, the BLAST (Altschul et al., supra.) and BLAZE (Brutlag et al. Comp. Chem. (1993) 17:203) search algorithms on a Sybase system can be used to identify open reading frames (ORFs) within the genome that contain homology to ORFs from other organisms.

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As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based system are suitable for use in the present invention. The data storage means can comprise any manufacture comprising a recording of the present sequence information as described above, or a memory access means that can access such a manufacture.

"Search means" refers to one or more programs implemented on the computer-based system, to compare a target sequence or target structural motif, or expression levels of a polynucleotide in a sample, with the stored sequence information. Search means can be used to identify fragments or regions of the genome that match a particular target sequence or target motif. A variety of known algorithms are publicly known and commercially available, e.g., MacPattern (EMBL), BLASTN and BLASTX (NCBI). A "target sequence" can be any polynucleotide or amino acid sequence of six or more contiguous nucleotides or two or more amino acids, preferably from about 10 to 100 amino acids or from about 30 to 300 nt A variety of comparing means can be used to accomplish comparison of sequence information from a sample (e.g., to analyze target sequences, target motifs, or relative expression levels) with the data storage means. A skilled artisan can readily recognize that any one of the publicly available homology search programs can be used as the search means for the computer based systems of the present invention to accomplish comparison of target sequences and motifs. Computer programs to analyze expression levels in a sample and in controls are also known in the art.

A "target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequence(s) are chosen based on a three-dimensional configuration that is formed upon the folding of the target motif, or on consensus sequences of regulatory or active sites. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzyme active sites and signal sequences. Nucleic acid target motifs include, but are

not limited to, hairpin structures, promoter sequences and other expression elements such as binding sites for transcription factors.

A variety of structural formats for the input and output means can be used to input and output the information in the computer-based systems of the present invention. One format for an output means ranks the relative expression levels of different polynucleotides. Such presentation provides a skilled artisan with a ranking of relative expression levels to determine a gene expression profile..

As discussed above, the "library" of the invention also encompasses biochemical libraries of the polynucleotides of SEQ ID NOs:1-339, e.g., collections of nucleic acids representing the provided polynucleotides. The biochemical libraries can take a variety of forms, e.g., a solution of cDNAs, a pattern of probe nucleic acids stably associated with a surface of a solid support (i.e., an array) and the like. Of particular interest are nucleic acid arrays in which one or more of SEQ ID NOs:1-339 is represented on the array. By array is meant a an article of manufacture that has at least a substrate with at least two distinct nucleic acid targets on one of its surfaces, where the number of distinct nucleic acids can be considerably higher, typically being at least 10 nt, usually at least 20 nt and often at least 25 nt. A variety of different array formats have been developed and are known to those of skill in the art. The arrays of the subject invention find use in a variety of applications, including gene expression analysis, drug screening, mutation analysis and the like, as disclosed in the above-listed exemplary patent documents.

In addition to the above nucleic acid libraries, analogous libraries of polypeptides are also provided, where the where the polypeptides of the library will represent at least a portion of the polypeptides encoded by SEQ ID NOs:1-339.

The present invention will now be illustrated by reference to the following examples which set forth particularly advantageous embodiments. However, it should be noted that these embodiments are illustrative and are not to be construed as restricting the invention in any way.

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EXAMPLES

EXAMPLE 1

ISOLATION OF THE POLYNUCLEOTIDES

cDNA libraries were prepared from PrEC, normal human prostate epithelial cells, and LNCaP, a cell line derived from human lymph node metastasized prostate cancer. PrEC cells are available from Clonetics, San Diego, California, U.S.A. LNCaP cells are available from the ATCC, Manassas, Virginia, U.S.A.

Using a PCR technique and reagents available from Clontech, Palo Alto, California, USA (CLONTECH PCR-Select™), mRNA up-regulated in LNCaP was captured and amplified. The captured polynucleotide inserts were inserted in the pCR2.1 vector, available from Invitrogen, Carlsbad, California, U.S.A. The vectors with the inserts were transformed into E. coli cells.

EXAMPLE 2

CONFIRMATION OF DIFFERENTIAL DISPLAY

Ten clones were chosen at random, and up-regulation of the sequences of these clone inserts in LNCaP versus PrEC cells was confirmed by Northern blot. Dot blots were performed on 168 clones and up-regulation was confirmed.

Further, sequencing of the clones showed that prostate specific antigen (PSA) and prostate specific membrane antigen (PSMA) sequences were isolated by the 20 process described in Example 1. A good correlation between increased serum PSA levels and prostate tumors has been observed. PSMA, a cell surface antigen, is another observed marker for prostate cancer. See Bosland, Encyclopedia of Cancer, Volume II, pages 1283-1296 (1997), Academic Press. Thus, the data confirm that up-regulated mRNA characteristic of gene expression in prostate cancer was cloned by the method of Example 1.

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EXAMPLE 3

POLYNUCLEOTIDE SEQUENCES

The sequence results are shown in SEQ ID NO:1-339. For the sequencing experiments, each clone was named SL-1 to SL-209. Inserts from some of the clones were sequenced more than once. Each sequence was designated a unique combination of two names. This unique combination is shown in Table 1 in columns 2 and 3, denoted as "Sequence Name" and "Other Seq Name."

Table 1 indicates all the sequences that correspond to each clone. Thus, all the sequences corresponding to clone SL-3, for example, are grouped together in Table 1.

Clones also were assigned cluster numbers. See column 4 of Table 1. Clones with the same cluster number generally comprise sequence derived from the same mRNA transcripts.

The last column of Table 1 indicates the nearest neighbor as determined by an alignment to sequences in a publicly available database.

A consensus for the sequence of each clone can be constructed by aligning the corresponding sequences or reverse complements thereof. Table 1 lists the names of all the sequences that correspond to each clone, and Table 2 shows the specific sequence that corresponds to each unique combination of Sequence Name and/or "Other Seq. Name."

The entire insert of some clones may not be represented by the sequences presented in Table 2. For example, the 5' and 3' ends of a clone insert may have been sequenced, but the sequences do not overlap. Additional sequence corresponding to the clone insert can be isolated and determined by constructing probes or primers from the sequences presented in Table 2 and a library of mRNA or cDNA from a prostate cell or prostate cancer cell line using the methods described above.

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EXAMPLE 4

RESULTS OF PUBLIC DATABASE SEARCH

Both the nucleotide sequence and translations of masked sequences shown in the Sequence Listing were aligned with individual sequences that were publicly available. Similarity with individual sequences is used to determine the activity of the polypeptides encoded by genes corresponding to the sequences referred to in Table 2.

The sequences in SEQ ID NO:1-333 first were masked to remove the pCR2.1 vector sequences. Masking was performed by aligning the pCR2.1 sequences with each of SEQ ID NO:1-333 using the BLASTN program. Any sequence that produced an alignment with a score of less that 0.1 was masked.

A BLASTN vs. Genbank search was performed using the masked sequences with search parameters of greater than 99% overlap, 99% identity, and a p value of less than 1 x 10⁻⁴⁰ and this resulted in discard of sequences. Sequences from this search also were discarded if the inclusive parameters were met, but the sequence was ribosomal or vector-derived.

The resulting sequences from the previous search were classified into three groups (1, 2 and 3 below) and searched in a BLASTX vs. NRP (non-redundant proteins) database search: (1) unknown (no hits in the Genbank search), (2) weak similarity (greater than 45% identity and p value of less than 1 x 10⁻⁵), and (3) high similarity (greater than 60% overlap, greater than 80% identity, and p value less than 1 x 10⁻⁵). This search resulted in discard of sequences as having greater than 99% overlap, greater than 99% identity, and p value of less than 1 x 10⁻⁴⁰.

The remaining sequences were classified as unknown (no hits), weak similarity, and high similarity (parameters as above). Two searches were performed on this set of sequences. First, a BLAST vs. EST database search resulted in discard of sequences with greater than 99% overlap, greater than 99% similarity and a p value of less than 1 x 10⁻⁴⁰; sequences with a p value of less than 1 x 10⁻⁶⁵ when compared to a database sequence of human origin were also excluded. Second, a BLASTN vs. Patent

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GeneSeq database resulted in discard of sequences with greater than 99% identity; p value less than 1×10^{-40} ; greater than 99% overlap.

The masked sequences were translated in all six reading frames to determine the best alignment with the individual sequences. These amino acid sequences and nucleotide sequences are referred, generally, as query sequences, which are aligned with the individual sequences.

Query and individual sequences were aligned using the BLAST programs, available over the world wide web.

Table 2 shows the results of the alignments. Table 2 refers to each sequence by its Sequence Name and/or "Other Seq. Name" and includes the accession numbers and descriptions of nearest neighbors from the Genbank and Non-Redundant Protein searches.

The activity of the polypeptide encoded by the sequences referred to in Table 2 is expected to be the same or similar to the nearest neighbor reported in Table 2. The accession number of the nearest neighbor is reported, providing a reference to the activities exhibited by the nearest neighbor. The search program and database used for the alignment also are indicated as well as a calculation of the p value.

Full length sequences or fragments of the polynucleotide sequences of the nearest neighbors can be used as probes and primers to identify and isolate the full length sequence corresponding to sequence referred to in Table 2. Although full length sequences can be obtained from the cell lines described above, the nearest neighbors can indicate a tissue or cell type to be used to construct a library for the full-length sequences of those referred to in Table 2.

The sequences referred to in Table 2 and the translations thereof may be human homologs of known genes of other species or novel allelic variants of known human genes. In such cases, these new human sequences may be suitable as diagnostics, prognostics, or therapeutics. As diagnostics, the human sequences exhibit greater specificity in detecting and differentiating human cell lines and types than homologs of other species. The human polypeptides are less likely to be immunogenic when administered to humans than homologs from other species. Further, on

administration to humans, the encoded polypeptides can show greater specificity or can be better regulated by other human proteins than are homologs from other species.

In the preferred embodiments of the invention, the sequences shown in SEQ ID NO:1-339 consisting of the unmasked regions should be considered as the source of probes and primers, as these sequences are most representative of the distinguishing portions of these polynucleotides.

Generally, the masking itself does not influence the search results as shown in Table 2, except to eliminate multiple "hits" based on similarity to repetitive regions common to more than one polypeptide.

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EXAMPLE 5

ANALYSIS OF CLONES SL-5, SL-9, SL-68, AND SL-173

Clone SL-5 (SEQ ID NO:14 and 334)

By Northern Blot, a 4.1 kb band was observed in expressed in normal prostate, testis, and lymphoblasic leukemia. It was also expressed in the cell lines LNCaP, and MDA PCa 2A and 2B (metastatic prostate cells into bone, androgen sensitive). Additional sequence corresponding to SEQ ID NO:14 is disclosed in SEQ ID NO:334.

Expression of SL-5 was investigated in normal and tumor tissues using immunohistochemistry. Antibody was prepared using two sequences from clone SL-5: H₂N-CGPRLPSFPCPTHEPSTGQLSK-CONH₂ and H₂N-CKDSQGLSDFKRNSRTTR-RSYKCCONH₂. Using polyclonal antibodies raised against a mixture of these polypeptides, immunohistochemistry (IHC) was performed on a variety of tumor tissues and corresponding normal tissue. The methods used were those described for the Manual IHC Protocol using BioGenex Reagents and Zymed AEC Solution, as known in the art. As shown in Figure 3, SL-5 was detected in the following tumor tissue: adrenal, ovary, breast, colon, prostate, uterus, cervix, kidney, pancreas, liver, stomach, lymphoma, seminoma, thyroid, melanoma, basal cell carcinoma, and other tumor tissues. Where comparative normal tissue was available, expression in the

corresponding normal tissue was lower than in the tumor tissue. Thus, SL-5 is a useful marker for cancer tissue including prostate.

Clone SL-9 (SEQ ID NO:18)

By Northern Blot, sequences from SL-9 were specifically expressed in normal spleen and normal peripheral blood leukocyte. Expression of the SL-9 sequences was observed also in promyelocytic leukemia HL-60, chronic mylogenous leukemia K-562, lymphoblastic leukemia MOLT-4, Burkitt's lymphoma, and Raji cancer cell lines by Northern Blot.

Clone SL-173 (SEQ ID NO:153 and 154)

By Northern Blot, SL173 was found in every cancer cell line tested. Sequence from SL-173 has similarity to and may be a human homologue of the rat tumor transforming gene, which was found in the pituitary and described in Pei *et al.*, Mol. Endo. 11: 433-441 (1997) and Pei, J. Biol. Chem. 273(9): 5219-5225 (1998). When the rat tumor transforming gene was injected in NIH3T3cells, the cells became transformed and were able to form a tumor when injected into mice. (Pei *et al.*, Mol. Endo. supra).

Clone SL-68 (SEQ ID NO:218 and 219)

Two transcripts, 2.6kb and 4.3kb, were observed in normal spleen, thymus and peripheral blood leukocytes, as well as in promyelocytic leukemia, chronic myelogenous leukemia and lymphoblastic leukemia. The 4.3kb transcript was seen in normal testis, colon, Hela cell S3, colorectal adenocarcinoma and melanoma. The 2.6kb band was found in the following prostate cell lines: PC-3 (metastatic to bone, androgen insensitive); DU-145 (metastatic to brain, androgen insensitive); FFpz (primary cells derived from normal prostate epithelium); Ffca (primary cells derived from Gleason Grade 3 prostate cancer epithelium); and WO-CA (primary cells derived from Gleason Grade 4 prostate cancer epithelium). However, higher expression was observed in LNCaP, MDA PCa 2A, HPV-7 and HPV-10. A 9.5kb transcript was also observed in MDA PCa 2A and 2B. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:335.

Clone SL69 (SEQ ID NO:220 and 221)

A weak 2.6kb band was observed in normal testis as well as in chronic myelogenous leukemia and lymphoblastic leukemia. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:336.

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15

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Clone SL86 (SEQ ID NO:242 and 243)

The sequence was expressed in normal prostate (2.7kb and 1.1kb) and testis (1.1kb). Low expression was observed in a cancer cell line blot using the cell lines described above. 1.1kb and 2.7kb transcripts were observed in the cell lines LNCaP, and MDA PCa 2a and 2b (metastatic prostate cells into bone, androgen sensitive), and weak 1.1kb transcript was seen in HPV-7 (immortalized normal prostate cells) and HPV-10 (immortalized prostate cancer cells). Additional sequence corresponding to this clone is disclosed in SEO ID NO:337.

Clone SL195 (SEQ ID NO:288 and 289)

The sequence was expressed in normal prostate as a 1.9kb transcript, and the same transcript also observed in all cell lines in the cancer cell line blot described above. It was more heavily expressed in HeLa cell S3 and chronic myelogenous leukemia, and was expressed in all prostate cell lines. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:338.

Clone SL197 (SEQ ID NO:292 and 293)

Two transcripts, 2.4kb and 4kb, were observed in normal prostate and testis. Two very weak 2.4kb signals were observed in Hela cell S3 and chronic myelogenous leukemia. The 2.4kb transcript was expressed in all prostate cell lines. A 4kb transcript was found in LNCaP, MDA PCa 2A and 2B. Additional sequence corresponding to this clone is disclosed in SEQ ID NO:339.

Those skilled in the art will recognize, or be able to ascertain, using not more than routine experimentation, many equivalents to the specific embodiments of

the invention described herein. Such specific embodiments and equivalents are intended to be encompassed by the following claims.

All patents, published patent applications and publications cited herein are incorporated by reference as if set forth fully herein.

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TABLE 1

PATENT

Clone #	Sequence	Other Seq	Clone #	Nearest Neighbor If Available
	Name	Name	Cluster #	
SL-001	SL001	19sl1	SL-001	S60754 (VNTR locus DXZ4)
	SL001M13			
SL-002	SL002	20s12	SL-002	L07935 HUMVNTRA
SL-003	SL003	21sl3	SL-003	AB006625 - KIAA0287 gene
ļ.	SL003	35-sl3-1m13		·
	SL003	35-sl3-1t7		
į	SL003	37-sl3-1m13		
	SL003	39-sl3-1m13		
SL-004	SL004	22s14	SL-004	
	SL004M13			
SL-005	SL005	23sl5	SL-005	
	SL005	30s111b		
SL-006	SL006	24sl6	SL-006	
	SL006M13		<u> </u>	cosmid genomic clone
SL-007	SL007	25s17	SL-003	AB006625-KIAA0287
	SL007	28-sl7-1m13		
	SL007	28-sl7-1t7		
	SL007	30-s17-1m13		
	SL007	30-s17-1t7	ł	
	SL007	32-sl7-1m13		
	SL007	32-s17-1t7		
SL-008	SL008	26s18	SL-008	HUMP65 E=9e-62
ļ				L-plastin. Phosphoprotein (p65)
SL-009	SL009	27s19]	·
	SL009M13			
SL-010	SL010	28s110	SL-005	
SL-011	SL011	29s111a	SL-011	HSU10685 - MAGE-10 Gene
SL-012	SL012	31sl12	SL-011	HSU10685 - MAGE-10 Gene
SL-013	SL013	32s113		
SL-015	SL015	34s115	SL-015	HSU90336 - PEG3 mRNA
	SL015	46-sl15-2m13		
	SL015	47-s115-2m13		HSMRNAEN - Enkephalinase
	SL015	47-s115-2t7		
SL-016	SL016	10-s116-1m13	SL-016	
	SL016	10-s116-1t7		
	SL016	11-sl16-1m13		
	SL016	18-s116-2m13		
	SL016	18-sl16-2t7		
	SL016	19-sl16-2m13		
	SL016	19-s116-2t7	! 	•
	SL016	20-sl16-2m13		
	SL016	20-s116-2t7	,	
	SL016	35s116		

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TABLE I

PATENT

	SL016	9-s116-1t7		
SL-017	SL017	36s117	SL-017	HUMORF01 - KIAA0101 gene
SL-028	SL028m13	Bl	SL-028	
	SL028t7	Bl		
SL-029	SL029m13	WE97.C1.M13	SL-029	
	SL029t7	WE97.C1.T7		
SL-032	SL032m13	WE97.D1.M13	SL-032	HSTPIIG TPII gene
	SL032t7	WE97.D1.T7		for triosephosphate isomerase.
SL-036	SL036m13	WE97.E1.M13	SL-036	HSU81599 homeodomain protein
ļ	SL036t7	WE97.E1.T7		HOXB13
SL-037	SL037m13	Cl	SL-005	
	SL037m13	WE97.F1.M13		
	SL037t7	CI		
SL-040	SL040m13	Dl	SL-040	
	SL040t7	DI	:	
SL-041	SL041m13	Ei	SL-016	
	SL041m13	WE97.H1.M13		
	SL041t7	EI		
	SL041t7	WE97.H1.T7		
SL-042	SL042m13	WE97.A2.M13	SL-008	HUMP65 phosphoprotein (p65)
	SL042t7	WE97.A2.T7		HUMPLASTA L-plastin gene
SL-044	SL044m13	WE97.B2.M13	SL-016	
	SL-04417	WE97.B2.T7		
SL-045	SL045m13	WE97.C2.M13	SL-045	
	SL045t7	WE97.C2.T7		genomic DNA
SL-046	SL046m13	WE97.D2.M13	SL-046	
	SL04617	WE97.D2.T7		
SL-047	SL047m13	WE97.E2.M13	SL-047	
	SL047t7	WE97.E2.T7	!	
SL-050	SL050m13	WE97.F2.M13	SL-050	
	SL050t7	WE97.F2.T7		
SL-051	SL051m13	WE97.G2.M13	SL-051	
	SL05117	WE97.G2.T7		
SL-054	SL054m13	WE97.H2.M13	SL-054	
	SL054t7	WE97.H2.T7	ļ	
SL-055	SL055m13	FI	SL-050	
	SL05517	F1		
	SL05517	WE97.A3.T7	<u></u>	

TABLE 1

SL-057	SL057m13	WE97.C3.M13	SL-057	
. <i>32-</i> 0,	SL05717	WE97.C3.T7	0.5 05.]
SL-058	SL058m13	WE97.D3.M13	SL-058	HSLRPRIGN leucine-rich primary
, 52 455	SL058t7	WE97.D3.T7		response protein 1.
SL-061	SL061m13	WE97.E3.M13	SL-028	
02 00.	SL06117	WE97.E3.T7		
SL-062	SL062m13	WE97.F3.M13	SL-028	
	SL06217	WE97.F3.T7		
SL-064	SL064m13	WE97.G3.M13	SL-064	
	SL06417	WE97.G3.T7		
SL-066	SL066m13	WE97.H3.M13	SL-016	
	SL066t7	WE97.H3.T7		
SL-067	SL067m13	Hl	SL-067	HUMKIAAP - KIAA0095 gene
,	SL067t7	HI		
	SL067t7	WE97.A4.T7		
SL-068	SL068m13	WE97.B4.M13	SL-068	
	SL068t7	WE97.B4.T7		
SL-069	SL069m13	WE97.C4.M13	SL-069	
	SL06917	WE97.C4.T7		
SL-071	SL071m13	WE97.D4.M13	SL-071	
	SL07117	WE97.D4.T7		
SL-072	SL072m13	WE97.E4.M13	SL-015	HSU90336 Human PEG3 mRNA
	SL072t7	WE97.E4.T7		AB006625 KIAA0287
SL-074	SL074m13	WE97.F4.M13	SL-074	
	SL074t7	WE97.F4.T7		
SL-075	SL075m13	WE97.G4.M13	SL-075	
	SL075t7	WE97.G4.T7		
SL-076	SL076m13	WE97.H4.M13	SL-076	
	SL076t7	WE97.H4.T7		
SL-077	: SL077m13	WE97.A5.M13	SL-077	
	SL077t7	WE97.A5.T7		
SL-078	SL078m13	A2	SL-016	
	SL078m13	WE97.B5.M13		
	SL078t7	A2		BAC clone (with Alu)
SL-081	SL081m13	WE97.E5.M13	SL-003	AB006625 - KIAA0287 gene
	SL081t7	WE97.E5.T7	27. 005	
SL-083	SL083m13	WE97.G5.M13	SL-083	
	SL08317	WE97.G5.T7		
SL-084	SL084m13	WE97.H5.M13	SL-084	(UC205CC House BNA
	SL08417	WE97.H5.T7		(HS295C6 Human DNA sequence)

TABLE 1

SL-085	SL085m13	WE97.A6.M13	SL-085	
SL-086	SL086m13	WE97.B6.M13	SL-086	
	SL086t7	WE97.B6.T7		
SL-087	SL087m13	WE97.C6.M13	SL-087	EST and Mus musculus
	SL087t7	WE97.C6.T7	j	ras-GTPase-activating protein
SL-088	SL088m13	WE97.D6.M13	SL-015	HSU90336 Human PEG3
Ĺ	SL08817	WE97.D6.T7		& AB006625 - KIAA0287 gene
SL-089	SL089m13	WE97.E6.M13	SL-089	
	SL089t7	WE97.E6.T7		
SL-090	SL090m13	D2	SL-090	
	SL090t7	D2		
SL-091	SL09lm13	WE97.G6.M13	SL-091	
l	SL091t7	WE97.G6.T7		
SL-092	SL092m13	WE97.H6.M13	SL-092	HUMPRKACB testis-specific
	İ		1	cAMP-dependent protein kinase
	SL092t7	WE97.H6.T7		catalytic subunit (C-beta isoform)
SL-093	SL093m13	E2	SL-008	HUMLPLSTN2 L-plastin gene
	SL093t7	E2	Ì	
SL-094	SL094m13	WE97.B7.M13	SL-094	
	SL094t7	WE97.B7.T7		÷
SL-095	SL095m13	WE97.C7.M13	SL-003	AB006625 - KIAA0287
	SL095t7	WE97.C7.T7		
SL-096	SL096m13	WE97.D7.M13	SL-096	
	SL096t7	WE97.D7.T7		
SL-097	SL097m13		SL-071	
	SL09717			
SL-098	SL098m13		SL-098	
	SL098t7			
SL-099	SL099m13		SL-016	
	SL099t7			
SL-100	SL100m13	F2	SL-085	
	SL100m13			SL100m13 Alu - 2e-71
	SL100t7	F2		
	SL100t7			<u> </u>
SL-102	SL102m13		SL-102	HSRPL32 ribosomal protein L32
	SL102t7			
SL-103	SL103m13		SL-103	
	SL103t7			
SL-105	SL105m13		SL-105	
	SL105t7		l	
SL-106	SL106m13		SL-106	
	SL106t7			
SL-107	SL107m13		SL-016?	
	SL107t7			SL107m13 -Alu - 2e-78
SL-110	SL1!0m13		SL-003	AB006625- KIAA0287 gene

TABLE I

<u> </u>	SL110t7			
SL-111	SL111m13	Ì	SL-111	·
	SL111t7			
SL-112	SL112m13		SL-112	
	SL112t7			
SL-115	SL115m13		SL-115	D86322 - calmegin
	SL115t7			
SL-116	SL116m13		SL-116	
	SL116t7			
SL-117	SL117m13		SL-117	HUMNUMB23 = HUMNPM
	SL117t7			Human nucleolar protein (B23)
			-	or Human nucleophosmin
SL-118	SL118m13		SL-118	
3L 110	SL118t7			
SL-119	SL119m13		SL-119	
/ ۱۱ -سان	SL119ii13		~- *	
SL-120	SL120m13		SL-046	·
31-1-0	SL12017			
SL-121	SL121m13		SL-016	
25-121	SL1211113			
SL-122	SL122m13		SL-122	HUMPRKACB testis-specific
3L-122	SLI22IIII		SE 122	cAMP-dependent protein kinase
	SL122t7			catalytic subunit (C-beta isoform)
SL-124	SL12207		SL-016	
SL-124	SL124II13		50-010	
SL-125	SL124t7		SL-125	HSU19145 GAGE-4
2F-175	SL125ii13 SL125t7		31,-123	(US 5.648.226)
SL-127	SL12307		SL-127	
SL-127	SL127m13 SL127t7		3121	·
Ct 130			SL-005	
SL-128	SL128m13		2D-002	
CI 130	SL128t7		SL-130	
SL-130	SL130m13)	31,130	
CI 133	SL130t7		SL-011	HSU10685 MAGE-10 gene
SL-132	SL132m13		20-011	(US 5.612.201)
07 131	SL13217		CI 121	HSC70P Hsc 70 pseudogene
SL-134	SL134m13		SL-134	(Heat Shock protein)
	SL134t7		CI 135	(Treat Shock protein)
SL-135	SL135m13		SL-135	
	SL135t7		OI Ass	
SL-138	SL138m13		SL-051	
	SL138t7			
SL-139	SL139m13		SL-139	
!	SL139t7		: -	Homo sapiens cosmid
SL-142	SL142m13		SL-005	
	SL142(7	!	·	

TABLE 1

	· · · · · · · · · · · · · · · · · · ·			
SL-143	SL143m13	!	SL-143	Genomic clone
	SL143t7			AC003978
SL-144	SL144m13		SL-144	
1	SL14417			E= 3-81
SL-145	SL145m13		SL-003	AB006625- KIAA0287 gene
SL-146	SL146m13	WE97.E7.M13	SL-146	'
02.10	SL14617	WE97.E7.T7		
SL-147	SL147m13	G2	SL-147	(1) HSCDC2R Human cell cycle
315-147	SL147m13	WE97.F7.M13	J 2	control gene CDC2
	SL147117	G2		(2) HSU29091 selenium-binding
SL-148	SL14707	WE97.G7.M13	SL-016	(2) 110 00 111 1111 1111
3L-140	SL148ii13	WE97.G7.T7	32.010	·
SL-149	SL14807	H2	SL-149	,
3L-149	SL1491113	H2 H2	3L-14)	
GY 150	1		SL-150	
SL-150	SL150m13	A3	SL-130	"Human DNA sequence"
	SL15017	A3	CT 151	Tunian DIVA sequence
SL-151	SL151m13	WE97.B8.M13	SL-151	Canadaia fran
<u></u>	SL151t7	WE97.B8.T7	0.4.50	Genomic frag
SL-152	SL152m13	WE97.C8.M13	SL-152	
	SL152t7	WE97.C8.T7		
SL-153	SL153m13	WE97.D8.M13	SL-153	·
	SL153t7	WE97.D8.T7		
SL-154	SL154t7	WE97.E8.T7	SL-154	HUMPAR5R - PAR-5 mRNA
SL-155	SL155m13	WE97.F8.M13	SL-028	
	SL155t7	WE97.F8.T7		SL155m13 - EST only in Mouse
SL-156	SL156m13	WE97.G8.M13	SL-016	
	SL156t7	WE97.G8.T7		
SL-157	! SL157m13	WE97.H8.M13	SL-157	
	SL157t7	WE97.H8.T7		
SL-158	SL158m13	WE97.A9.M13	SL-011	HSU10685 MAGE-10 gene
02.50	SL158t7	WE97.A9.T7		(US 5.612.201)
SL-159	SL159m13	WE97.B9.M13	SL-159	
32-137	SL15917	WE97.B9.T7	022 203	Chromosome 11 pac
SL-160	SL160m13	WE97.C9.M13	SL-051	
35-100	SL1601113	WE97.C9.M13	30-031	
CLIC			CI 161	HUMP65 phosphoprotein (p65)
SL-161	SL161m13	WE97.D9.M13	SL-161	HUMPLASTA L-plastin gene
	SL161t7	WE97.D9.T7	61 163	HOMELASTA L-biastin gene
SL-162	SL162m13	B3	SL-162	
	SL162t7	B3	01.016	HIGHTEDOO NICANADI
SL-163	SL163m13	WE97.F9.M13	SL-016	HSU75330 -NCAM21
 	SL163t7	WE97.F9.T7		
SL-164	SL164m13	WE97.G9.M13	SL-016	*
!	SL164t7	WE97.G9.T7		
SL-165	SL165m13	WE97.H9.M13	SL-165	
i	SL165t7	WE97.H9.T7	!	(genomic seq)

TABLE I

P.	AΤ	F	TV

SL-166	SL166m13	C3	SL-166	
2F-100	SL166t7	C3		İ
	SL16617	WE97.A10.T7		
SL-167	SL167m13	WE97.B10.M13	SL-167	HUMLPACI09 lipoprotein-associated
3L-10/	SL1671113	WE97.B10.T7		coagulation inhibitor (LACI) gene
SL-168	SL168m13	WE97.C10.M13	SL-168	
3L-100	SL168t7	WE97.C10.T7		
SL-169	SL169m13	WE97.D10.M13	SL-169	HUMNEUROF oligodendrocyte
32-107	SL16917	WE97.D10.T7		myelin glycoprotein (OMG)
SL-170	SL170m13	WE97.E10.M13	SL-170	
JE-170	SL170t7	WE97.E10.T7		
SL-171	SL171m13	WE97.F10.M13	SL-171	AB002374 - KIAA0376 gene
35 17.	SL17117	WE97.F10.T7		
SL-172	SL172m13	WE97.G10.M13	SL-016	
	SL17217	WE97.G10.T7		
SL-173	SL173m13	WE97.H10.M13	SL-173	
	SL173t7	WE97.H10.T7		
SL-174	SL174m13	D3	SL-174	
	SL174t7	D3		
SL-175	SL175m13	WE97.B11.M13	SL-016	
	SL175t7	WE97.B11.T7		
SL-176	SL176m13	WE97.C11.M13	SL-176	
	SL17617	WE97.C11.T7		
SL-177	SL177m13	WE97.D11.M13	SL-177	·
	SL177t7	WE97.D11.T7		
SL-178	SL178m13	WE97.E11.M13	SL-178	
	S1178t7	WE97.E11.T7		Human BAC clone
SL-179	SL179m13	WE97.F11.M13	SL-179	
	SL17917	WE97.F11.T7		
SL-181	SL181m13	WE97.H11.M13	SL-181	
	SL18117	WE97.H11.T7		LAW 1944 DE A consiste france midinio
SL-182	SL182m13	F3	SL-182	HUMAPEA apurinic/apyrimidinic endonuclease (HAPIh)
	SL182m13	WE97.A12.M13	1	HSHAPIMR Human HAPI mRNA
	SL182t7	F3	CT 046	DODAY INK DUMAN DAFT MKNA
SL-183	SL183m13	WE97.B12.M13	SL-046	
	SL183t7	WE97.B12.T7	CI OIC	
SL-184	SL184m13	WE97.C12.M13	SL-016	
	SL184t7	WE97.C12.T7	CI 196	
SL-186	SL186m13	WE97.D12.M13	SL-186	
	SL186t7	WE97.D12.T7	CI 107	
SL-187	SL187m13	WE97.E12.M13	SL-187	
<u> </u>	SL18717	WE97.E12.T7	CT 100	
: SL-188	SL188m13	G3	SL-188	
1	SL188t7	G3		
	SL18817	WE97.F12.T7	1	

TABLE I

PATENT

SL-191	SL191m13	WE97.H12.M13	SL-181	
36-171	SL191117	WE97.H12.W13	31,-101	
SL-192	SL192m13	H3	SL-192	
	SL19217	H3		Human DNA sequence
SL-193	SL193m13	A4	SL-193	
	SL19317	A4	,	
SL-194	SL194m13	B4	SL-194	HUMKGIDD - KIAA0098 gene
	SL19417	B4		
SL-195	SL195m13	C4	SL-195	
	SL19517	C4		
SL-196	SL196m13	D4	SL-196	HUMMAOAAA monoamine oxidase
	SL19617	D4		(MAOA)
SL-197	SL197m13	E4	SL-197	
	SL197t7	E4		
SL-198	SL198m13	F4	SL-198	
	SL19817	F4		
SL-199	SL199m13	G4	SL-016	
	SL19917	G4		
SL-201	SL201m13	A5	SL-028	
	SL201t7	A5		(Mouse ESTs only)
SL-202	SL202m13	B5	SL-202	mitochondrial genome & ESTs(?)
	SL202t7	B5		
SL-203	SL203m13	C5	SL-040	1
	SL20317	C5		
SL-204	SL204m13	D5	SL-204	
	SL204t7	D5		
SL-205	SL205m13	E5	SL-205	
	SL205t7	E5		
SL-206	SL206m13	F5	SL-015	AB006625 - KIAA0287 gene
	SL20617	F5		I I I I I I I I I I I I I I I I I I I
SL-207	SL207m13	G5	SL-207	HUMFOLMES - DHFT
EL 200	SL20717	G5	CY 200	dihydrofolate reductase gene
SL-208	SL208m13	H5	SL-208	AB011165 - KIAA0593
C1 200	SL20817	H5	CI 200	
SL-209	SL209m13	A6	SL-209	
	S1209t7	A6		
	hatah '		· · · · · · · · · · · · · · · · · · ·	
	batch I			
	batch 2			
	batch 3			
	batch 4			<u> </u>

			TABLE 2	E2	LVA	PATENT
• 27 • 28 • 27	Ë	BlastN vs. (ib (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq.						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description	P(V)
10-sH6-1t7	<non:></non:>	<none></none>	<none></none>	<none></none>	<none></none>	<non></non>
24, 311, 31	/:INCIN'	ZINOWY		70 Id	METALLOTHIONEIN (MT)>PIR2:S30567 metallothionein - plaice>GP.PPMMET_1	:
10-8110-517	< INCINIS	AOINE	<none></none>	MI_PLEPL	Piplatessa mKNA for metallothionein	0.32
		***SEQUENCING IN PROGRESS ***Human Chromosome 11p14.3 PAC clone pDJ939m16, HTGS				·
22sl4	AC004601	phase 1,3 unordered pieces.	0.016	VPI_BPCHP	PROTEIN VPI(ORFI)	0.1
		Humo sapiens chromosome 16 BAC clone CIT9875K-270G1 complete				
275.10	A1:001549	sednence	7.2c-28	ALU6_HUMAN	IIII ALU SUBFAMILY SP WARNING ENTRY IIII	3.5e07
		Hours sapiens Rad51-interacting			Mus musculus RADS1-binding proptein RAB22	
32813	AF006259	protein mRNA, complete cds.	1.2c-09	MMU93583_1	mRNA, complete cds	1.2e-13
					Mus musculus transcription factor Genesis mRNA, complete eds; A winged helix retinoic-	
				-	acid hepatocyte nuclear factor Morkhead	
39-st3-1m13	1107056	(ACPP) gene, exon 1.	1.1e-19	MMU41047_1	transcription factor; HNF3/FH transcription factor	97.0
715 2118-74	950801	Sequence 2 from Patent EP 0272928.	4.8e-52	<none></none>	<:NON>	SINON>
					SIK1 PROTEIN>PIR2:S48550 hypothetical	
		٠			protein YLR197w - yeast (Saccharomyces	
		Homo sapiens PAC clone			cerevisiae Sik Ip (SIK I) gene, complete eds;	
		DJ0844F09 from 7p12-p13.			Possible microtubule binding protein; similar to	
s1102m13	AC'004453	complete sequence.	5.0e-50	SIKI_YEAST	GenBank Accession Number U14913	2.7c-(N)
		13 AC 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Mouse CBA/I lg heavy chain VI region	
S1103m13	AC'002542	7q31, complete sequence.	0.78	MUSIGHV01B_1	Possible pseudogene	0.30
					Mouse CBAJ Ig heavy chain VI region	
410317	SESCINO, IV	Human BAC clone RGI 14A06 from 7a31 complete sequence	7.08-11	MUSICHIVOLB	pseudogene, S'end, lg heavy chain precursor; Possible oscudoneus	57.0
		٠.				

			· · · · · · · · · · · · · · · · · · ·						ı	1
PATENT		P(V)	1.5c-08	0.45	1.2e-14	0.97	0.016	0.77	NON	<non!></non!>
PAT	BlastX vs. NRPdb (nearest neighbor)	Hit Description	HYPOTHETICAL PROTEIN MJ0694>PIRZ:F64386 hypothetical protein MJ0694 - Methamorocous jannaschii>CiP.U67516_8 Methamococous jannaschii section 58 ot 150 of the complete genome; Conserved hypothetical protein; Similar to SP:Q12499 PID:1420682P1	!!!! ALU SUBFAMILY SB2 WARNING ENTRY !!!!	IIII ALU SUBFAMILY SQ WARNING ENTRY IIII	HYPOTHETICAL TRP-ASP REPEATS CONTAINING PROTEIN C18B11.10 IN CHROMOSOME 1>PIR2:558306 hypothetical protein spac 18b11.10 - fission yeast (Schizosaccharomyces formbe)>GP-SPAC18B11_10 S;pombe chromosome 1 cosmid c18B11; Unknown; SPAC18B11;10, le	Home sapiens BAC clone RG013N12 from 7q31;2, complete sequence; H RG013N12;gw;1335199;a	A; thaliana transcribed sequence; clone VDV28- 22792, 3' end; similar to nonspecific lipid- transfer protein precursor	<non!></non!>	<non!></non!>
E 2		Accession	Y694_METJA	ALU4 HUMAN	ALU7_HUMAN	YA3A SCHPO	AC004416_5	ATT:S0669_1	<none></none>	<none></none>
TABLE 2		P(V)	4.3e-39	2.6e-()7	1.0e-55	2.8c-16	1.8e 57	3.8e-25	2.2c-10	0.25
	BlastN vs. (ib (nearest neighbor)	Hit Description	Sequence to from patent US \$627054.	Human DNA sequence 414 SEQUENCING IN PROGRESS 4*4 from clone 269M15; HTGS phase 1.	IIS 1008-A2-A05-MF.abi CTF Human Genomic Sperm Library C. Homo sapiens genomic clone Plate=CT 330 Col=10 Row=A, genomic survey sequence.	Human DNA sequence from PAC 138A5 on chromosome X contains ESTs.	Homo sapiens chromosome 5, P1 clone 1029A7 (LBNL H15), complete sequence.	Human PAC clone DJ055C04 from 7p15-7p21, complete sequence.	Homo sapiens, HTGS phase 1, 53 unordered pieces.	*** SEQUENCING IN PROGRESS *** Human Chromosome 7 BAC Chore 155b01; ITIGS phase 1, 11 unordered pieces.
	38	Accession	148979	AI.021.395	B3134	818887	656£00.)V	AC'003044	AC'003684	680100.3V
		Seq. Name and/or Other Seq. Name.	S110617	s1107t7.15a	s1124t7	717.7118	SH35m13	811.3517	sti44mi3	311417

SL15307

PATENT		P(V)	66:0	0.99	<non!></non!>	د ا د	<:INON>	<non!></non!>	0.0018	: INON>	86.0
I.V-d	BlastX vs. NRPdi (nearest neighbor)	Hit Description	PROCOLLAGIEN ALPHA 3(IV) CHAIN PRECURSOR>PIRT.CGHU3B collagen alpha 3(IV) chain precursor, long splice form- human>GPN:HSCOL4A3_1 H;sapiens COL4A3 mRNA; Type IV collagen alpha 3 chain>GP:HSCOL4A3_1 H;sapiens COL4A3 mRNA; Type IV collagen alpha	36.4 KD PROLING-RICH PROTEIN-PIR2:S19129 proline-rich protein TPRP-F1 - tomato>GP:LETPRPF1_1 L; esculentum TPRP-F1 gene for a proline rich protein	NON	mucin2, intestinal/tracheal - rat (fragment)	<noni;></noni;>	<noni:></noni:>	ANNEXIN VII (SYNFXIN) (FRAGMENT)>PIR2:A27695 synexin - bavine (fragment)	<n()n()></n()n()>	Cepaena nemuralis complete mitochondrial genome; ATPase subunit 8>GP:CMU23045_8 Cepaea nemoralis complete mitochondrial genome; ATPase subunit 8
E 2		Accession	CA34_HUMAN	PRF1_LYCES	<none></none>	A54895	<none></none>	<none></none>	ANX7_BOVIN	<non></non>	CMU23045_8
TABLE 2		P(V)	< NONE>	0.0029	2.5e-11	<non></non>	0.00084	0.38	0.00064	1.8c-17	0.030
	BlastN vs. (ib (nearest neighbor)	Hit Description	<none></none>	Mouse microsatellite marker DNA D4SM116b, 4.	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome 17, clone hRPC 1171 1 10; 117GS phase 1, 4 unordered pieces.	NON	Caemarhabditis elegans cosmid C44189, complete sequence	Caemodabditis elegans cosmid R05H10, complete sequence	Cacinyrhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from clone Y43F11; ITTGS phase 1.	Human Chromosome X, complete sequence.	Caenorhabditis elegans cosmid 172201.
	BL	Accession	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	X5826.1	ACTROHGS7	<non></non>	173424	283119	01.022270	911:200,00	Al:039052
	1 340 ES	Seq. Name and/or Other Seq. Name.	SI 160r7	SI.16277	7:091 N	SI 1747	S1.176m13	SI.17617	St.177m13	21.771.18	SI.179m13

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PATENT		F(V)	<non5></non5>	0.99	66'0	<none></none>	0.1	1970
PA	BlastX vs. NRPdb (nearest neighbor)	Hit Description	<none></none>	hypothetical protein (cpcG4 region): Anabaena sp. (strain PCC 7120) (fragment)>GP:ANARODCORA_6 Anabaena sp; cpcF gene. 3' end; cpcG1, cpcG2, cpcG3, and cpcG4 genes, complete cds; and unknown ORF, 3' end	hypothetical protein (cpcG4 region) - Anabaena sp. (strain PCC 7120) (fragment)>GP:ANARODCORA_6 Anabaena sp. cpcF gene, 3' end; cpcG1, cpcG2, cpcG3, and cpcG4 genes, complete cds; and unknown ORF; 3' end	<none></none>	Human isolate HR015 T cell receptor V-beta complementarity determining region 3 mRNA, partial eds	probable membrane protein YPR056w - yeast (Saecharomyces cerevisiae)>(19-50909X, 12 S;cerevisiae chromosome XVI cusmid 9490; Unknown; UP9499; 12, unknown, len:3.8k, CAI: 0; 12, similar to \$44.45\$, transcription factor BTF2 chain p34, (29;3% identit
E 2		Accession	<none></none>	PS0245	PS0245	<none></none>	H3135091	S54078
TABLE 2		P(V)	0.017	0.017	8100	0.019	0.050	0.053
	BlastN vs. (3b (nearest neighbor)	Hit Description	Mus musculus glucokinase gene, complete cds.	Cacuarhabditis clegans DNA *** SEQUENCING IN PROGRESS *** from clone Y52811: HTGS plase 1.		Caemorhabditis elegans DNA *** SEQUENCING IN PROGRESS *** from Anno YSPR 1- HTGS phase L	*** SEQUENCING IN PROGRESS *** Homo sapiens chromosome #16q12_1+16q22/2.3+1q11/12_BAC clone CIT98/SK-A-4271110. HTGS	### SEQUENCING IN PROGRESS ### Homo sapiens chromosome #Tog12.1+Tog22/23+1q11/12 BAC clone CIT9875K-A-4271110; HTGS phase 1, 15 unordered pieces.
	Bla	Accession	1.41631	7.08.86.7	7,00007	2.0305	ACMORAL A	AC WH626
		Seq. Name and/or Other Seq. Name.	71071 12	18. 18. 18. 18. 18. 18. 18. 18. 18. 18.	S1.101.111.2	21 10 10 10 10 10 10 10 10 10 10 10 10 10	611116	51.1951.7

İ			TABLE 2	E 2		PATENT
-	≊	BlastN vs. (ib (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
	-					
3	Accession	Hit Description	l'(V)	Accession	Hit Description	P(V)
		Caenorhabditis elegans cosmid				
7	AF003134	ZC581.	0.00	<none></none>	<none></none>	<non></non>
		Human herpesvirus-7 (HHV7) JI,		,		
_	(143400)	complete virion genome.	0.00	<none></none>	<none></none>	<:INON>
-		Sindbis virus sequence				
		complementary to 26S messenger				
	V00073	RNA	3.2e-09	<none></none>	<noni></noni>	NON
		Chlorella vulgaris C-27 chloroplast			Simian immunodeficiency virus SIVRh1543 clone 5-4 envelope glycoprotein (env) gene. V1	
⋜	AB001684	DNA, complete sequence	0.0013	SIU05069_I	region, partial cds	0.1
					Homo sapiens (clone H 4;4) latent transforming growth factor, beta binging matein (FTRP-H)	
<	AB001684	Chlorella vulgaris C-27 chtoroplast DNA, complete sequence.	0.0014	HUMLTBP I	gene, partial eds; Lalent transforming growth factor- binding projein	. 0
					Caenorhabditis elegans cosmid F44G4.	
					complete sequence; r44O4;1; similarity to 35:1KD hypothetical yeast protein (Swiss Prot	•
	016612	Caenorhabditis elegans cosmid F44G4, complete sequence.	1.96.11	CEI:44G4_I	accession number P38805); cDNA EST CEMSE65F comes from this	5.0e-72
1					Caemorhabditis elegans cosmid F44G4,	
					35;1KD hypothetical yeast protein (Swiss Prot	
•	010012	Caemytabditis elegans cosmid	21, 12	1 7077130	accession number P.38805), cDNA EST	17.01.6
1	YINCK!	NON!	VINCA V	NONE	CEMBEROT COMES HOMES	SINON
1	1	N. I. S. S. S. S. S. S. S. S. S. S. S. S. S.	711017	Various.		1000
-	091732	Human DNA sequence *** SEQUENCING IN PROCEESS ***	2 00.53	/ Z Z V	NO.	.:NON
	1,0440.7	11000 Chine . MATE . 111 Ch. Pringe 1.		110011	7,11UVIV	27

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PATENT

PCT/US99/13181

	BlastN vs. (ib (nearest neighbor)	TABLE 2	E 2	PA BlastX vs. NRPdb (nearest neighbor)	PATENT
Accession	Hit Description	(A)d	Accession	Hit Description	P(V)
Ciona inte clone 171 AJ226019 sequence	<u>.</u> ج	0.064	<none></none>	<non!></non!>	<non!></non!>
 	H.supiens CACT repeat	1.9e-22	AE001779 2	Borrelia burgdorferi (section 65 of 70) of the complete genome; Competence protein I; putative; Similar to GB:M59751 SP:P31773 PID:1573409 percent identify: 27;00; identified by sequence	9.1
000	Plasmodium falciparum DNA *** SEQUENCING IN PROGRESS *** from contig 3-66, complete scouence.	0.21	AE001779 2	Borrelia burgdorferi (section 65 of 70) of the complete genome; Competence protein F, putative; Similar to GB:M59751 SP:P31773 PID:1573409 percent identity: 27;00; identified by sequence	9.
 	Human Chromosome 11 pac pDJ1075f20, complete sequence.	0.1	BTRNAT3_1	B;taurus mRNA for complete thrombospondin	0.0074
Buchnera ap acetylmuram (mwrC157), ligase (ddlB)	Buchnera aphidicula (BDP-N-acetylinuranate; L-alanine ligase (murC157), D-alanine; D-alanine ligase (ddlB), cell division protein				
(7is:V) AF012886 and pl	(ltsA), cell septation protein (ltsZ), and pfs genes, complete cds.	0.40	<none></none>	<noni:></noni:>	<non></non>
Z69790 F33C	Caenorhabditis elegans cosmid F33C8, complete sequence.	0:020	<none></none>	<none></none>	<noni:></noni:>
Acan RNA encox	Acamhonevra sp. 16S ribosomal RNA gene, mitochondrial gene encoding mitochondrial RNA, partial				
1139368 sequ	sequence.	0.054	<none></none>	<non!></non!>	^INON>
INON	<none></none>	<none></none>	<none></none>	<noni:></noni:>	^NON>
n. 9 X95276 State	P. falciparum complete gene map of plastid-like DNA (IR-B).	0.0000	SHFORF_I	Shigella sonnei DNA for 26 ORFs, complete cds; ORF1	0.15

			TABLE 2	E 2	I.W.	PATENT
10日本語の 一次語	B	BlastN vs. (ib (nearest neighbor)			BlastX vs. NRPdb (nearest neighbor)	
Seq. Name and/or Other Seq.						
Name.	Accession	Hit Description	P(V)	Accession	Hit Description) <u>(</u>
					X-linked reteinopathy protein (C-terminal, clone	
					XEH.8c) - human (fragment)>GP:S58722_1 X-	
		Human DNA sequence ***			linked relimpathy protein 13' region, clone	
-		SEQUENCING IN PROGRESS ***			XEH;8c1 [human, mRNA Partial, 390 nt]; This	
SI.94t7	AL:022313	AI.022313 from clone 1119A7; HTGS phase 1.	6.0e-18	A46010	sequence comes from Fig; 5	5.7e-07

CLAIMS

WE CLAIM:

- 1. A method of diagnosing cancer, tumor progression, hyperproliferative cell growth or accompanying biological and physical manifestations comprising:
- (a) providing a polynucleotide probe that comprises a sequence capable of hybridizing to any one of the sequences shown in SEQ ID NO:1-339 or complement thereof;
- (b) contacting a biological sample for diagnosis with said probe under hybridizing conditions that permit formation of a duplex; and
 - (c) determining the presence of said duplex.
- 2. The method of claim 1, wherein said polynucleotide probe comprises at least eight contiguous nucleotides of any of SEQ ID NO:1-339 or complement thereof.
- 3. The method of claim 2, wherein said polynucleotide probe comprises 8 contiguous nucleotides of the sequences of the clones selected from the group consisting of SL-5, SL-6, SL-9, SL-11, SL-13, SL-68, SL-69, SL-86, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, SL-177, SL-195, and SL-197.
- 4. A method of diagnosing cancer, tumor progression, or hyperproliferative cell growth comprising:
- (a) providing an antibody capable of binding to a polypeptide encoded by any one of SEQ ID NO:1-339 or complement thereof;
- (b) contacting a biological sample for diagnosis with said antibody under binding conditions that permit formation of an antibody-polypeptide complex; and
 - (c) determining the presence of said complex.
- 5. The method of claim 4, wherein said antibody is capable of binding to a polypeptide comprising at least six contiguous amino acid of a polypeptide encoded by any one of SEQ ID NO:1-339 or complement thereof.

- 6. The method of claim 5, wherein said polypeptide comprises at least six contiguous amino acids of a polypeptide encoded by any one the sequences of the clones selected from the group consisting of SL-5, SL-6, SL-9, SL-11, SL-13, SL-68, SL-69, SL-86, SL-90, SL-100, SL-107, SL-124, SL-135, SL-139, SL-143, SL-152, SL-153, SL-173, SL-177, SL-195, and SL-197.
 - 7. A diagnostic kit comprising:
- (a) a diagnostic reagent comprising a polynucleotide probe that comprises a sequence capable of hybridizing to any one of SEQ ID NO:339 or complement thereof when said sequence is present in a test biological sample;
 - (b) a normal biological sample; and
- (c) instructions for detecting differences that exist between the levels of duplexes in said test biological sample as compared to said normal biological sample.
- 8. A method of treating a mammal with cancer, tumor progression, hyperproliferative cell growth or accompanying biological and physical manifestations, said method comprising administering to said mammal a composition that comprises a therapeutically effective amount of a polynucleotide comprising a sequence capable of hybridizing under stringent conditions to any one of SEQ ID NO:1-339 or complement thereof.
- 9. The method of claim 8, wherein said polynucleotide comprises at least eight contiguous nucleotides of any of SEQ ID NO:1-339 or complement thereof.
- 10. The method of claim 9, wherein said polynucleotide is an antisense construct.
- 11. The method of claim 9, wherein said polynucleotide is a ribozyme construct.

- 12. An isolated polynucleotide selected from the group consisting of:
- (a) a polynucleotide comprising the nucleotide sequence of any one of SEQ ID NO:2, 5, 49, 50, 99, 100, 115, 116, 118, 130, 131, 140, 144, 145, 146, 157, 158, 159, 163, 164, 165, 166, 177, 178, 180, 211, 212, 213, 218, 219, 220, 221, 229, 232, 233, 242, 243, 248, 249, 254, 256, 257, 259, 272, 273, 277, 288, 289, 292, 293, 316, 317, and 330;
- (b) a polynucleotide encoding a variant of the polypeptide encoded by (a); and
- (c) a polynucleotide encoding a protein expressed by a polynucleotide having the sequence of at least one of sequences of (a).
 - 13. A vector comprising the polynucleotide of claim 12.
 - 14. A host cell comprising the vector of claim 13.
- 15. A composition comprising a polypeptide, wherein the polypeptide is selected from the group consisting of:
- (a) a polypeptide encoded by any one of the polynucleotides of claim 12, and
 - (b) a variant of the polypeptide of (a).

1/5

Sequence Range: 1 to 1383

10 20 30 40 50 60

TTA CTC ACT ATA GGG CTC GAG CGG CCC GGG CAG GTG TAA AAA TAA AAT GAC AGT TTG AAC ATA
AAT GAG TGA TAT CCC GAG CTC GCC GGC GGC CCC GTC CAC ATT TTT ATT TTA CTG TCA AAC TTG TAT 110 100 CAA AAC CCA CCC CAT TCC TAT AGA GCC TAG TAC TAC ACT ACC CCC TCC CAA CTT TAG CCT CCA CAT GTT TTG GGT GGG GTA AGG ATA TCT CGG ATC ATG ATG TGA TGG GGG AGG GTT GAA ATC GGA GGT GTA <L V W G M G I S G L V V S G G G L K L R W M 140 150 160 170 180 190
ATA GTA ATG TGC TTG GAA CAC AAA AAA CAC TTC ATA AAT TGT GCT GAA TGA AAT CAT TTC CAT GAG
TAT CAT TAC ACG AAC CTT GTG TTT TTT GTG AAG TAT TTA ACA CGA CTT ACT TTA GTA AAG GTA CTC <Y Y H A O F V F F V E Y I T S F S I M E M 200 210 220 230 240 250 260
TGT TTA TGG ATT TTG AGT TCA TTT GTA CCT TTT ACC TAA AAT TCT AGC CAC TTT AAT TTG GAG AGT
ACA AAT ACC TAA AAC TCA AGT AAA CAT GGA AAA TGG ATT TTA AGA TCG GTG AAA TTA AAC CTC TCA 270 280 290 300 310 320 330 TTC CAG AGC AAA GGA CCT TTT ACC TAA AAT TCT AGC CAC TTT AAT TTG GAG AGT TTC CAG AGC AAA AAG GTC TCG TTT CCT GGA AAA TGG ATT TTA AGA TCG GTG AAA TTA AAC CTC TCA AAG GTC TCG TTT 340 350 360 370 380 390

GGG CAC AGA TCC CAG GCA TAA CAA CGC TTT GCG TAT ACA GCA ACC AAT ATC TTG TCA ACC CAA GAA
CCC GTG TCT AGG GTC CGT ATT GTT GCG AAA CGC ATA TGT CGT TGG TTA TAG AAC AGT TGG GTT CTT AGT TCC TCC ATT GAT ACC TAG TAG AAA TAG CCC AGT TTT TAA AGT CCT CAA AAC TGT AAC AAA TTA TCA AGG AGG TAA CTA TGG ATC ATC TTT ATC GGG TCA AAA ATT TCA GGA GTT TTG ACA TTG TTT AAT CTT GTT TTT AAA ATT TAA CTT AAA TTA ATA CAA TCA GAT TTT TGT GTT ATT TGG GTA TTA GAG TAT GAA CAA AAA TTT TAA ATT GAA TTT AAT TAT GTT AGT CTA AAA ACA CAA TAA ACC CAT AAT CTC ATA 560 GTT AAA GCA CAT ATA TCC CAG AGA CAT AGA GTT TCC GTT TCA AAA AGT CAT GCA TTC ATG TGT GCT CAA TTT CGT GTA TAT AGG GTC TCT GTA TCT CAA AGG CAA AGT TTT TCA GTA CGT AAG TAC ACA CGA 600 610 620 630 640 650 660 AAT GAC AAT CCT ATC CTG ACC CGC TAT GTG ACT TGT ATC TCT AAA CCA TAG GCT TTC CTG AAT TTT TTA CTG TTA GGA TAG GAC TGG GCG ATA CAC TGA ACA TAG AGA TTT GGT ATC CGA AAG GAC TTA AAA 670 680 690 700 710 720
ATC TGT TAA TTT AAC CCT GAT TTC TCA GCA GCA GCT TCT CTT TGT AAA TAG ACT TGC CTC TTC TGT
TAG ACA ATT AAA TTG GGA CTA AAG AGT CGT CGT CGA AGA GAA ACA TTT ATC TGA ACG GAG AAG ACA 760 GTC TGA SCT CTG CTC CTC ATA ATC AGA TTA ACT CAG ATA AAG CTG CTT CAG GGA AGA GGT CAA AAC CAG ACT GGA GAC GAG GAG TAT TAG TCT AAT TGA GTC TAT TTC GAC GAA GTC CCT TCT CCA GTT TTG

FIG. 1A

FIG. 1B

Sequence Range: 1 to 1815

70 80 90 100 110 .120 130 AAT ACT GAG TGC AAG ACA ATC TTT CTA GGT TAA AAA ATA TCT TAT AAA CCT G^{+A} TTG TCA ATT ATT CTC ACG TTC TGT TAG AAA GAT CCA ATT TTT TAT AGA ATA TTT GGA CTT AAC AGT TAA TAA TAA CAT 140 150 160 170 180 190
ATT GTA TCC CAG ATG TAT GGA AGT TAA TGG ATA GTC AGT AAC ATA CAG GAC TAS CAG AAG GTT TGT
TGA TGA AGG GTC TAC ATA CCT TCA ATT ACC TAT CAG TCA TTG TAT GTC CTG ATC GTC TTC CAA ACA 200 250 250 260 TGT TAT AGG TAA TCT GGA GAG AAG CCA GGT AAG TGG AAT TTG GGA TTT GCT GCT GTT GCC AGA AAG ACA ATA TCC ATT AGA CCT CTC TTC GGT CCA TTC ACC TTA AAC CCT AAA CGA CGA CAA CGG TCT TTC 270 280 290 300 310 320 330 CAG CAC AGA GAC ATG GTA AGT GGC AAG ACC CAG GTA ACT AAA ACA ACC ATG TCT TAG TCC TTT TAT GTC GTG TCT CTG TAC CAT TCA CCG TTC TGG GTC CAT TGA TTT TGT TGG TAC AGA ATC AGG AAA ATA 340 350 360 370 380 390
GCT GCT GTA ACA GAA TAT CAC AGA CTG AGT AAT TTA TAA TGA ACA GAA CTT TAT TTG TCT TCT GGT
CGA CGA CAT TGT CTT ATA GTG TCT GAC TCA TTA AAT ATT ACT TGT CTT GAA ATA AAC AGA AGA CCA 400 410 420 430 440 450 460 TCT GGA GAC TGG GAA ATC TAA GAG CGT GGC ATT GAC ATA TGG TGA GGG CAT TTG TGC CTC ATC ATC AGA CCT CTG ACC CTT TAG ATT CTC GCA CCG TAA CTG TAT ACC ACT CCC GTA AAC ACG GAG TAG TAG 470 480 490 500 510 520 CCA TGA CAG AAG ATG GAA ATG CAA GAG AGC TCA AAA GCA AGA GAG CAA ATG GGG CCA AAC TTG CTT GGT ACT GTC TTC TAC CTT TAC GTT CTC TCG AGT TTT CGT TCT CTC GTT TAC CCC GGT TTG AAC GAA 530 540 550 560 570 580 590 TIT ATA ACA AGC CAC TCT TGT GAT AAT GAA CCA ACT CAA ACA ATA AAG ACA TAA ATC CAT TCA TGA AAA TAT TGT TCG GTG AGA ACA CTA TTA CTT GGT TGA GTT TGT TAT TTC TGT ATT TAG GTA AGT ACT 660 670 680 690 700 710 720
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TAT CAT TAA GTC AAA GTT GGA CCC AAA ATA TCC CTG CAA CCT TGG TGT CGT TTG ACA TTG GTA AAA
I V I Q F Q H G F Y R D V G T T A :: C N H F> 730 740 750 760 770 780 790 GAT TTC CTT ATT TGC ACC ATT TTA AAA AAA CCT ATT TAT TTA ACG ACT GTT TAT TCA GTG CCT ATT CTA AAG GAA TAA ACG TGG TAA AAT TTT TTT GGA TAA ATA AAT TGC TGA CAA ATA AGT CAC GGA TAA D F L I C T I L K K P I Y L T T V Y S V P I> 800 810 820 830 840 850 CTG TTG TGT TGG GGA CTA GAG GTA ATT ACA AAG GGA ATA AGA CAA ACA GTC ACC CAC TCT GGT GAT GAC AAC ACA ACC CCT GAT CTC CAT TAA TGT TTC CCT TAT TCT GTT TGT CAG TGG GTG AGA CCA CTA L L C w G L E V I T K G I R Q T V H S G D>

FIG. 2A

FIG. 2B

SL5 IMMUNOHISTOCHEMISTRY COMPARISON OF TUMOR vs. NORMAL

	1	2	3	4	5	9	7	8	6	10
Ą	Adrenal	Adrenal	Adrenal	Ovary	Ovary	Ovary	Ovary	Breast	Breast	Breast
lumor	(14)	(++4)	(7+)	(++4)	(++4)	(+4)	(++4)	Pu.	(+4)	(1+)
NC	(·)	(-)	(·)	Мp	(-)	(-)	·)	na	(-)	(-)
Normal	(2+)	(2+)	(+5)	(+1)	(+1)	na		(++1)	БП	na
NC	(-)	(-)	(-)	(-)	(-)	na		(-)	na	na
В	Colon	Colon	Colon	Colon	Prostate	Prostate	Prostate	Prostate	Uterus	Cervical
Iumor	(++4)	(+++)	(++++)	(+4)	(+5)	(++3)	(+3)	(++3)	(++4)	(+5)
NC	(·)	(-)	(-)	(-)	(-)	(-)	(·)	(-)	(·)	(·)
Normal	(45)	(1+)	(2+)	(++3)	٠.	(++5)	(+1)	(++5)	(+5)	(++2)
NC:	()	(-)	(-)	(-)	· (·)	(-)	(-)	(-)	(-)	(-)
J	Kidney	Kidney	Kidney	Kidney	Pancreas	Pancreas	Pancreas	Pancreas	Leiomyo.	Leiomyo.
tumor	(+4)	(+4)	(+4)	(++4)	(+++4)	(++4)	(++4)	(+++4)	(+4)	(++4)
NC	(·)	(-)	(-)	(-)	(-)	(-)	(-)	(·)	EDG	£0G
Normal	ζ.	~			(1+)	(+1)	(++5)	(+1)		
NC.	(·)	·)			(-)	(-)	(-)	(-)		
D	Liver	Liver	Liver	Stomach	Stomach	Stomach	Lymphoma	Lymphoma	Lymphoma	Lymphoma
Tumor	(+4)	(+′,)	(++4)	(-)	ทล	na	(+4)	(+2)	(+5)	(+1)
NC	(·)	(·)	· ·	(-)	na	na	(-)	(-)	(-)	(-)
Normal	เาล	กล	na	na	na	na	(+1)	(+1)	5	(-)
N.C.	เมล	กล	กล	na · ·	(-)	(-)	(-)	na	(-)	(-)
ш	Seminoma	Seminoma	Seminoma	Thyroid	Thyroid	Thyroid	Thyroid	Fibro-	Fibro-	Fibro.
lumor	(+3)	(+4)	(++4)	(++4)	na	ยน		(+4)	(+4)	(++4)
NC	(·)	(-)	(-)	EDG	MD	E0G	EDG	(-)	(•)	(·)
Normal	(++2)	(41)	(+5)	(+])	(+1)	(++5)	(-)	(-)	purk(+)	(+5)
NC	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	na
L	Melanoma	Melanoma	Melanoma	Chor io-	Carcinoid	Chorio-	Basal Cell	Basal Cell	Basal Cell	Germ Cell
lumor	(+++4)	(+4)	(+++4)	(+4)	(+4)?	(+1)	(++3)	(+3)	(+1)	(++4)
NC	$\widehat{\cdot}$	(-)	(-)	(·)	(·)	(-)	(-)	(-)	(-)	£06
Normai							(+1)	(++1)		(+1)
NC							(-)	(-)		(·)

Staining Intensity: . no staining: + weak: ++ medium: +++ strong staining Staining Percentage: 1: 0.25%: 2: 26.50%: 3: 51-75%: 4: 76-100% For example: (++3) stands for 51-75% of cells have medium staining NC: Negative Control: na: no tissue materials on slides

SEQUENCE LISTING

```
<110> Zhang, Jimmy
Astel, Jon H.
Carroll III, Eddie
Endege, Wilson O.
Ford, Donna M.
Monahan, John E.
Schlegel, Robert
Steinmann, Kathleen E.
```

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PCT/US99/13181

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                                                                                                                             780
conceded the tangent of the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the conceded the con
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atgatggggc tgnnttccca atggttacnc tgaaaatgca ttaagggagg tcagcgtcat
                                                                      720
                                                                      780
ttgtctcatg gatacgnaaa aatctcttnc accctgncca tnaacaggng gcaatcgctt
gnggncctga tgnccatgtt ccaaaaggaa tccgatgcca nnagcngctg ggacagtctt
                                                                      840
                                                                      900
aagettttet tenecaecet tetatettga aettneanae gttteeggaa aenecaanga
nngttaccac ttgccngacc taaaaaacnc tgttcacgaa nttnaacttn ggatttngga
                                                                      960
acnetttett tanaaagggt tatecattge netttgtgne caaataggan ggeeneeett
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nnga
                                                                     1024
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                                                                      120
cagoctocca agtagotggg attgtaagag tatgccacca ogcocagota otttttgtat
                                                                      180
ttttagtaga gacagggttt catcatgttg gccaggatgg tctcttaact cctgccctca
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                                                                      300
agtgatecae cagagaggag atceteggee tecceaagtg etgggattat aggeatgage
360
                                                                      420
gccgctgaat tctattctag aattaagcgg ccgctgaatt ctagacctgc ccgggcggcc
gctcgagccc tatagtgagt cgtattagga tggaagggcg aattctgcag atatccatca
                                                                      480
cactggegge egetegagea tgeatntaga gggeccaatt egecetatag tgagtegtat
                                                                      540
tacaattcac tggccgtcgt tttacaacgt cgtgactggg aaaaccctgg cgttacccaa
                                                                      600
ettaategee tigeageaca teeceettie geeagetgge gtaatagega agaggeeega
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cegategnee ttecaacagt tgegcageet gaatggegaa tggacgegee etgtagegge
                                                                      720
gcattaance geeggeggt gtggtggtta encegeancg tgaacegnta caettggcan
                                                                      780
ggneetaegg ceegntteet ttegetttet tteettteet tinttggnea egitteggee
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gggttttccc cggtnaagct nttaaattng ggggcttccc ntttangggn tcccgaantt
                                                                      900
anngeettta aegggacent gganeeceaa aaaactttgg tttanggggg angggtteae
                                                                      960
                                                                     1020
cgtaannggg necatttgcc ctggntaaac nggttttttc ccccnttgac nttgggnanc
cccq
                                                                     1024
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
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      \langle 223 \rangle n = A,T,C or G
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ncnatectaa tacgaeteae tatagggetn gageggnega eeggaeagng ntnnnggtgg
                                                                      120
ctnatgccta naatcccagn acttggggag gccnaggatc tcctntntgg tggatcactt
                                                                      180
gagggcagga gttaanagac catcetggcc aacatgatga aaccetgtet ctactaaaaa
                                                                      240
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tacanaangt agetgggegt ggtggeatac tettacaane ceagetaett gggaggetga
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ggcaggagaa tcacttgaac ctaggaagca gaggttgcag tgggccaaga tcacaccact
                                                                       360
atactctaaa gggcgaattc cagcacactg gcgnccgtta ctagaggatc cgngctcggt
                                                                       420
                                                                       480
nccaagettg gegtaateat ggacanaget gttneetgtg tgaaatgggt aanegetnac
                                                                       540
aanntnacac aacatacnag coggaagcat aaagngtnaa gootggggng cotaatgagt
gagetaacte acattaattg egttgegete actgeeeget ttncagnteg ggaaacetge
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                                                                       660
cgtgccagct gcattaatga atcggccacg cncnggggag aggcggantg cgaatgggcg
                                                                       720
cttcttnegn ttctcgctta ctgactngat geggttcggc ccattgnntg cagcaaagcg
                                                                       780
gnatengete acttnaaagg enggnaatne eggttnteee entgaateeg ggggattace
                                                                       840
gcaggtnaag aaccatgggg anccaaaagg ccagctaaaa gggcccggga acccggaaaa
                                                                       900
aaggeeengt tggttggegt ttttteanaa ggtteegeee cettgaeegn ngenttacaa
aaattnggag genttaaggt ennaantggg ggaaaceeee egggaaattt caggntneee
                                                                       960
                                                                      1020
nggggtttcc cctgggaagt tncttngggg gctttccnnt tcnaaacctg gcgnttaccg
                                                                      1024
gnaa
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      <211> 1024
      <212> DNA
      <213> Homo Sapien
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      <222> (1) ... (1024)
      <223> n = A, T, C or G
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                                                                        120
tgggggagcg gtagatggcc cagccccaag tgttccgatc ttcctgccca aacatattct
                                                                        180
                                                                        240
gtgacggaaa gcctatgttg acctcgtccg gcactcaagg cgtgggcagc ggcctaacgt
ctgctgcggg aacacagtcg cgttgaatgc tattctcaag acagacaaaa cagtgggaag
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                                                                        360
acactacgoc aagotgotaa otocotggoc attgooggac totttcacco ccatggactt
                                                                        420
tccgctggca ttttaaacaa catagtttct tttctctgtc tctttctctt tctctctct
                                                                        480
tttetette tetetete tetetetet tetetetetg teaateteat aatttetete
totogtgoca ogttoccaco caacgetete tegeocacti etactgggge ceaetteete
                                                                        540
tcctgctctc tctgtctcaa cgtgattgac tttcttgtgc tgcccaggac ttcttgccca
                                                                        600
                                                                        660
cgtgcgcctt caaaacggta agagctgcaa ctgaacgtgt ganacatggt gcagataggc
tgagaggeng egggaaaaat geecatgaaa etcaaagtae teengeegge gancaegeta
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                                                                        780
angggngant ttcaagcaca nntggcgggc cgttactaan tggattcgaa cctccggtac
caaaagettg ggegttaate atgneaanaa geegttttee ngtnttaaat ttgttnanee
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geteananat tecanacaan enattaenan geegggaaan ecaanaaagt tgttaaaace
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ctgggggttg ccnnaatgan ttgangctaa ntccnnttta atttncnttg cnccnaangg
                                                                        960
                                                                       1020
ccggtttttc cattcgggaa acctgtncgt nccaanctgn atttantgaa tcgggcaaac
                                                                       1024
tccc
      <210> 12
      <211> 957
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      <213> Homo Sapien
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      <222> (1)...(957)
      \langle 223 \rangle n = A,T,C or G
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tgaagaaaat atatcaagat gttaaccaca ctctttggat ggtgaaaaca tgggtgagtt
                                                                        180
                                                                        240
totottotac atttotgtaa ottoaaagtt totataatga acacatttoa tatataatgg
aaatatatgt agtaaaggtg gactaccaaa acactagaat gatgaccttt caaggaaacc
                                                                        300
                                                                        360
gaaacaaaat aaccataatc ccacaacaac cacacaacta tttcttgttt ttcatctttc
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ttcccatctt tgacatttat gcatacttat cactaacacc ctaataatca cagactagtg
                                                                        420
cacagatcaa gatgttaaca gttaattgtt gttgggtgtt gggaatatgt gtgaattttc
                                                                        480
tttactgaat ttccaaagtt ttgtatgagt atgtantata tttgtaatgg aaaatacata
                                                                        540
cataagaatt tantaccaaa nacaccaaag attatttaag gaatttgaga caaaaatatt
                                                                        600
tanccaaatt cccacaatga caacaccaan tttaggtant ttccacatct ntttcaaatt
                                                                        660
taanggettt angeacacat attttaacae tggtaneeae aagengtgtt geneeggaan
                                                                        720
caanngntng agggaaacca ggtncaagga tggtnancan taagttgtta anggggttgg
                                                                        780
gaanannggn aattttttaa aacanattta cnttaanttt ccaagttttn ccnccgggga
                                                                        840
anntttttng gccaccaatg ggggnncccc nttatanccn ngtnanccgg ggacattttt
                                                                        900
tnnnggggaa atttnganaa atttagagtg ngaaangntt tttacccaan agtnccn
                                                                        957
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       <211> 1020
      <212> DNA
       <213> Homo Sapien
      <220>
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      <222> (1)...(1020)
      <223> n = A,T,C or G
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aagggacgct tatggagaac ctcttaaaga tattgtgagc attctactca ttacttaggg
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aaagagagcg ggtgttggtc caactctggc ttttgtgcca ggtaggagtt ggtcctgagg
                                                                        240
ccgcccatct gaccatactg gacctgtttt aaggtttttc tctaaaaaaa ttttagattt
                                                                        300
gtcaatctgt gctcctgcag gggatgctat gtccaaatgt cccaggattt gttttttct
                                                                        360
gtotttoctg agacattoco tgoccagota cocaaggaat cottoaaacg agcaaatotg
                                                                        420
accatatett ctatggteag attaaaatet teeatggete eetattgett atgggacaaa
                                                                        480
atcaaaattc ctgagtctgg tctaaaaggt gtttgatgat cttgacctgc tgactttgcc
                                                                        540
agecticity teagactete gigicatget eegectagae tatgageetg etatiteata
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ctatgtagct ttgtaaagtc ccaqaaaatg ctqqqctctq actcttttat aactttacat
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atactgttcc atetgectgg aatgeettet acttgtetgt ccagcaaatt etcaactcat
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ctcttaaggg cccagettca attgccgcct cctancataa gtcttccctt gatttcccan
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gcagnaatta nntcccgcgt accccgggga ntcccaatca gtttgtgctt tcaaaactga
                                                                       840
tggnnngact tccctgaaat ttgggttacc ncaaaacgaa atgggtgaat ccnnttccc
                                                                       900
cgggggggct gcaattgcac cctttttaa aggggaaccc tgnaantccc aatggnttaa
                                                                       960
atttgacncc cttaanggch thanttchat tgaqcaactt naaaaqqqqt tttttttttt
                                                                       1020
      <210> 14
      <211> 1013
      <212> DNA
      <213> Homo Sapien
      <220>
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                                                                       120
ngtctcccct ctacnagctc acctgagata acagaatgaa aatggaagga cagccagatt
                                                                       180
teteettige tetengetea tietetetga aneetaggit acceatitig gggacceati
                                                                       240
ataggcaata aacacagtto ccaaagcatt tggacagttt cttqttqtqt tttanaanqq
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ttttcctttt tctnancctt ttcctgcaaa aggctcactc agtcccttgc ttgctcantg
                                                                       360
gactgggctc cccagggcct aggctgcctt cttttccatg tcccacccat gagccctcna
                                                                       420
ctagacaget cantaageet ggeeetteat tetgegetgt gttetteete ngtgaaaate
                                                                       480
caatacetet taceteetet geatgeaaag atteteaagg attgteagae tteaaaegta
                                                                       540
acagcagaac caccagaagg tocnataaat gcagtagtga cottotcaaq ctqtcaqqtc
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tttaaatagg atttgggatt taatgcnatg tatttttaaa ggaaagaaat aagagttgcn
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agtttaaaaa tgcatgtctt ttagccaatt cagaatcctg cccccaaact tttttaaaaaa
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                                                                       780
gtcaagacag ataaagcttt ggggganacg gaaaaaaann gnnnaaaaaa anaaagtact
                                                                       840
tegggeggna acnaegetaa gggnnaatte ageananggg gggeegttae aagngggtte
                                                                       900
nanneceggt acnaancett gggggtttaa caagggenaa anenggttne eggggntnaa
                                                                       960
aattgttacc cgcnaaaaat tccanaaaaa natncgaacc cggaaancca taaanttntn
                                                                      1013
aanccenggn ggccnaaggg agngnnnaac cccnaataaa tggnttggnc cnt
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      <212> DNA
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                                                                       180
tgaaggcata ataagaaagt gagtgatcag aagagcagag aaatgacttg ttccagtcac
                                                                       240
tgccatcttg tttacccttt cagtggttcc cttacccttt tccccactgg gcatacagct
catetetete tgagteettt tetgetttee teetttgete taaaegtteg agttteaaat
                                                                       300
tectettacg accagaetta tetegaaata eggttteage atattgaaat teagetgeaa
                                                                       360
aggaaaatta tactcaaata tcaggatcaa aatcagaaat aacattctaa gagatcaaat
                                                                       420
                                                                       480
caaccgcttg ggattctaat gctagataag aacttctgca gccagaccaa agtagttcct
accaacatet tggtgcatat tggcactggg cccaagaaat ggcattttcc tttttttt
                                                                       540
                                                                       600
ttttgagatg gagteteact etgttgeeca ggttggagtg cantgggege gattttgget
cactgcaacc tocacctccc aaggttcaag cgattctcct gtctcaagcc tcctgagtna
                                                                       660
                                                                       720
gctggggaat acagggcata cnacancatg cctggctagt tttttttttg gaattttggn
tagagacagg ggtttcatca nggttngccc aggcctggtn cttggaactn anagaccctc
                                                                       780
                                                                       840
aggntggatt caacccaact tccgggctac caaaaggtng ncgngggatt acangcattt
                                                                       900
anncaacngn gccctngggc naaaatggna anttttcang aagggaaagc agcnntgggg
                                                                       951
atecenggnn naanttteac caaggeetta aaccagggne gtaaatttgt t
      <210> 16
      <211> 1008
      <212> DNA
      <213> Homo Sapien
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      <222> (1) ... (1008)
      <223> n = A,T,C or G
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agoggoogco ogggoaggta cattacttgg tgttaacatt gttggoagtg gtagoccott
ttcagaaagc aacttgctgt aagtcagggt gtccgttcca accttcagct agtgaaaagg
                                                                       180
                                                                       240
tagtaacaaa tggtaaacaa gagaatgatt gtttaaacct atctgtggac acttaatgca
actgtttaaa aatgataatc acgagttatg tagcaacgtg gaaatatatt tacagaacat
                                                                       300
                                                                       360
taagtggaga aagcaggaca cgaaagtata tttatactac agttataact caacagttca
tttatatgct gttcatttaa cagttcattt aaacagttca ttataactgt ttaaaaaatat
                                                                       420
                                                                       480
atatgettat agteaaaage tgttgtggtg ttgttgttgt aggettatag ttgageatta
ttttcttaaa tttcttgaat gttctttatg gtagtgttac taaaaagttt atgatcacat
                                                                       540
                                                                       600
tttcattgtg aacataattt gaactcatta tcacacactt ggaaaataca gaaaagtgga
                                                                       660
ggaaaaaaaa tcatatcccc ancatccaaa gacatatact ctcctcttat cctgttcaat
                                                                       720
cctggtttcc ggtgcacaag gtttatgatt ataactgtgt caaaatgtat aatcaaaata
                                                                       780
gctgttacat taccttggtg gnantaaggg taaatacctt caccttaaat ttttcaaaan
                                                                       840
gttcccaana ataaaggtcc ggataacagt ggtataagtg tgtcccaatt gggggtgcan
aatacattcc cangngggaa aatttnnaaa tnaagttaaa ttattttaaa aaatttccaa
                                                                       900
                                                                       960
aattcccaan anctaanaac taangggnaa aaacctngat cgggntnccc caaacnngtt
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<211> 980
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      <220>
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                                                                        60
                                                                       120
aaaaaagttt gggggcagat tctgaattgg ctaaaagaca tgcatttta aaactagcaa
ctcttatttc tttcctttaa aaatacatag cattaaatcc caaatcctat ttaaagacct
                                                                       180
                                                                       240
gacagettga gaaggteact actgeattta taggaeette tggtggttet getgttaegt
ttgaagtctg acaatccttg agaatctttg catgcagagg aggtaagagg tattggattt
                                                                       300
                                                                       360
tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg tccagtggag
ggctcatggg tgggacatgg aaaagaaggc agcctaggcc ctggggagcc cagtccactg
                                                                       420
                                                                       480
agcaagcaag ggactgagtg aagcettttg caggaaaagg ctaagaaaaa ggaaaaccat
tctaaaacac aacaagaaac tgtccaaatg ctttgggaac tgtgtttaat gcctataatg
                                                                       540
                                                                       600
ggtccccaaa atggggtaac ctagacttca gagagaatga gcanaganca nagggagaaa
totggotgto ottocaattt toaatoogtn atoccaggtg aagotgggta ngagggggag
                                                                       660
                                                                        720
ancattngna naaaaatnga aacaacanaa nccagtttac taaatnaagg gaacctgccc
engggegge enceaanggg ccaaatttea ancaacanng ggegggeeeg ttaccaantg
                                                                       780
gnattccgaa gccncgggta accaangcct nggngtnaat ccagngggnc aaanccngtt
                                                                       840
tnccnggngt gnaaattggt tancccgccc naanaattcc acancaacga atcngaagnc
                                                                       900
                                                                        960
cgggcnagca tnnangnnta aancccgngg ggggcncaaa agggaatgnn nccanacccn
                                                                        980
attaaatncg gttgcccctg
      <210> 20
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
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toctaatacg actoactata gggotogago ggoogooggg caggtattoa goggoogott
                                                                        180
ttttttttt tttttttttttt attgntgaca ctattacaga tagaatgacc
                                                                        240
acaaccatat taacaaacca aaaacctgtg cacagaaaca agatgaagaa aatatatcaa
gatgttaacc acactntttg gatggtgaaa acatgggtga gtttctcttc tacatttctg
                                                                        300
taacttcaaa gtttctataa tgaacacatt tcatatataa tggaaatata tgtagtaaag
                                                                        360
                                                                        420
gnggactacc aaaacactag aatgatgacc tttcaaggaa accgaaacaa aataaccata
atcccacaac aaccacacaa ctatttettg gtttteatet ttetteecat etttgacatt
                                                                        480
                                                                        540
tatgcatact tatcactaac accctaataa tcacagacta gtgcacagat caagatgtta
acagttaatt gttgttgggt gttgggaata tgtgtgaatt ttetttaetg aattteeaaa
                                                                        600
                                                                        660
gttttgtatg agtatgtatt atatttgtaa tggaaaatac atacataaaa tttattacca
aaacaccaaa gattatttaa ggaatttgag acaaaatatt taaccaaatt cccacaatga
                                                                        720
                                                                        780
caacactatt ttaggtattt tccacatctt ttcatttaag actttatgen encatattta
acactggtat ccacaagcgt gtgccctgaa accaggatan nggggaaacn ngatcaagat
                                                                        840
gttagccagt agtttggtag gnggttggga aatataggga attttttnaa aaaaatttac
                                                                        900
                                                                        960
tttatttncn aaattttccc cttgggnaag ggattatggc ncnccaangg gngccccctt
aaanacnetg gttttengga eettttttt nggggaecat ttggaaaaaa ttaangggga
                                                                       1020
                                                                       1024
aggt
      <210> 21
      <211> 1024
      <212> DNA
```

<213> Homo Sapien

```
<220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
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engnngneae tnaatgeang ngennaacea tgataaceeg agttatgetn ageanaggaa
                                                                           120
                                                                           180
ctatatgtac agaaacatta agtgnngaaa gccnnacncn anggnanntg aatactacng
                                                                           240
tnataactna ncagaccatt nanatgctgc acatttaaca nnncntncan acagnanatt
ataanngnnt ananntatat atgetnatng accaaagetg tngaggggtn geegttgaag
                                                                           300
gennnnight nageattane athttachne acttgeetin cethtatgge aggittacta
                                                                           360
tetttgttae tgateacgae ateantgega aentaanaen aaenenntat nacacaetng
                                                                           420
nnanageceg aategngnng gaacagtate ntntencene cancennaga catntnennn
                                                                           480
cctcttatcn tgancattcn agnttctgtg cacaggtnta tgatnntanc ngtgncaaan
                                                                           540
tgnntcttna aantanttgc cacatnacct tngaggantt atggannaan actctcactt
                                                                           600
taaancenne aanegaceee nanaanaetg thetghtaac agtgeanaat gtgtgattte
                                                                           660
atagttntgc acacacatnc ccacnggaan cacaggcgtg tgcactgaac attntagagg
                                                                           720
                                                                           780
ntacctatct geogacacct aacactacng gtnacggcaa gateggaacc tntaannggg
                                                                           840
ttaacncaaa cnctagggat accongggaa atatgtggcc caccgtttaa acccccgaag
                                                                           900
tgcccngtac ccnggacatt gttttcgtgn cggtanttgg gttaaanntg ggntnaaaac
cctaattccc cctgggggtt tgccactaaa tttgaaggac cttttggccc tgccaaaatc
                                                                           960
                                                                          1020
annaaccetg geneanaact ttgggggane nggnnaggna gggtnneeet ttttteega
                                                                          1024
      <210> 22
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 22
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                                                                            60
ageggeegee egggeaggta etttttttt tttttttt tttttttt tttttttag attecacata
                                                                           120
tgagtaaaat catgtggtat ttgacttgcc ttttaaaaca cagtgaagaa tctgtcttac
                                                                           180
                                                                           240
tttattcagg gtaggagaag ctacctgggc tccccataaa tgaggtgctc catcccatca
tacagececa teatatteag tgetteecag atgaceteet caggggtgca gtagecetet
                                                                           300
atgaagatta tgcttaggat aagtatgaga atgccagtct tgggcatgct ctggacatca
                                                                           360
ctcagcatcc catcataggt gaggcccagg gaggtgacaa ggacaaagga gtggccagtg
                                                                           420
ggatccactt cetttacate aatgccaaag accagcagca tgcactegga ggetteacta
                                                                           480
aacaacaaag ggaagtggtc ttcataattt tttatgacac tctccaagta tttctgcctt
                                                                           540
tgtgatcggc tccttcattt gatacttgaa gagcagaaac tgcaccaaat cagtcacctt ttcatctatc tcacttctgg gtaaagactc actgtctggc aaggacctgg tagggtgctt
                                                                           600
                                                                           660
gggactcccc tccttttggc tgcnggagnc ctcancagat tgatctaatg gaagggaaac
                                                                           720
                                                                           780
aacgaccona ggggaaggag cagggctatc tngagcaacn ctggggaagg atttggggtc
nccatcatca ngcagnaaac teceteeegg gggtneettg ggnanttaaa gggatneeca ggaaggagga nggagggaan agggaggang agggaaaaac naggntngga aaaagggacn
                                                                           840
                                                                           900
cggngggaaa ttggggntta tacaccgccn ncnnnaannn ggggngagnc ngnngnccng
                                                                           960
tegnggnenn gntteenntt gggngaagnn ggnttetenn angggnegnn nnnnnnnne
                                                                          1020
                                                                          1024
cnnt
      <210> 23
      <211> 948
      <212> DNA
      <213> Homo Sapien
      <220>
```

<221> misc_feature

<223> n = A,T,C or G

```
<222> (1) ... (948)
      <223> n = A,T,C or G
      <400> 23
actititict tittitit titticogic tocccaaage titatetgie tigactitit
                                                                       60
                                                                       120
aaaaaagttt gggggcagat tctgaattgg ctaaaagaca tgcattttta aaactagcaa
                                                                       180
ctcttatttc tttcctttaa aaatacatag cattaaatcc caaatcctat ttaaagacct
                                                                       240
gacagettga gaaggteact actgeattta taggacette tggtggttet getgttacgt
ttgaagtctg acaatccttg agaatctttg catgcagagg aggtaagagg tattggattt
                                                                       300
tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg tccagtggag
                                                                       360
ggctcatggg tgggacatgg aaaagaaggc agcctaggcc ctggggagcc cagtccactg
                                                                       420
                                                                       480
agcaagcaag ggactgagtg agccttttgc aggaaaaggc taagaaaaag gaaaaccatt
ctaaaacaca acaagaaact gtccaaatgc tttgggaact gtgtttattg cctataatgg
                                                                       540
                                                                       600
gtccccaaaa tgggtaacct agacttcaga gagaatgagc agagnagcaa aggagaaatc
tgggctgtcc ttccattttc attccgttaa cctcaaggtg anctggtaaa aggggagaca
                                                                       660
                                                                       720
ttagaaaaaa aatgaancaa caaancaatt actaatgang tacctgcccg gggcggccgc
aaagggcgaa ntccaagcac acngggcggg ccgttacaan tnggatttcg aacccggtac
                                                                       780
                                                                       840
caaancntgg gngtaaanca ngggncaana accggnttcc cgggggtgaa aantgtttat
ccgcccaaaa attccaaaaa ancaatanga aaccggaaan cataaagtnt taaaccctgg
                                                                       900
                                                                       948
ggggggccca aangantgag ccaaanccca attnaattgg gttggncc
      <210> 24
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 24
taccgccctc gcatccctag taacggccnc cagtgtgctg gaattcgccc ttcctatctg
                                                                        60
tggacactta atgcaactgt ttaaaaatga taatcacgag ttatgtagca acgtggaaat
                                                                       120
atatttacag aacattaagt ggagaaagca ggacacgaaa gtatatttat actacagtta
                                                                       180
taactcaaca gttcatttat atgctgttca tttaacagtt catttaaaca gttcattata
                                                                       240
                                                                       300
actgtttaaa aatatatatg cttatagtca aaagctgttg tggtgttgtt gttgtaggct
tatagttgag cattattttc ttaaatttct tgaatgttcc ttatggtagt gttactaaaa
                                                                       360
agtttatgat cacattttca ttgtgaacat aatttgaact cattatcaca cacttggaaa
                                                                       420
atacagaaaa gtggaggaaa aaaaatcata tccccaccat ccaaagacat atactctcct
                                                                       480
cttatettgt teattettgt ttetgtgeac aggtttatga ttataactgt gteaaaatgt
                                                                       540
atattcaaaa tagctgttac attacctttg tggaattatg gttaaatact ttcactttaa
                                                                       600
ttttttcaaa tgttccctat aataatgtcc tgataacagt gtattatgtg tgtctccatt
                                                                       660
ggtgtgcata atacataccc agaggaaaaa ttagaaaata aagtaaatta ttttaaaaaa
                                                                       720
ttacctatat tcccaacacc taacaactac tgnttaacca tcttgatctg nttcctctat
                                                                       780
                                                                       840
cttggttcag tgcacacgct ttgngaataa cagtggttaa atatgtgtgc cataaaggcc
                                                                       900
ttaaatggaa aagatgtggg aaaaataact taanaataag ggtggccttt ggggggaaat
                                                                       960
ttqqttaaaa aattttqqqc tcnaaaattc cnttaanaaa acctttqqqg ggtttqqqna
ataaaaatnt taanggangg aatntteeen tteeantttt natteettee tetteecaaa
                                                                      1020
                                                                      1024
actt
      <210> 25
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
```

```
geegtenaga encatgenen agegnnegne ngtgtgatgg ataintgeng aattegneet
 tocatoctaa tacgactcac tatagggotn nagngngoca ctattnenga tngaangaco
                                                                          120
 acngccatat taacaaacca aaaacctgtg cacagaaaca agatgaagaa aatatatcaa
                                                                          180
 gatgitaacc acactetitg gatggtgaaa acatgggtga gittetetic tacatitetg
                                                                          240
 taacttcaaa gnttctataa tgaacacatt tcatatataa tggaantata tgtagnaaag
                                                                          300
 gnggactacc aaaacactag aatgatgacc tttcaaggaa accgaaacaa aataaccata
                                                                          360
atcccacaac aaccacacaa ctatttcttg gttntcatnt ttcttcccat ctttgacatt
                                                                          420
tatgcatact tatcactaac accetaataa tecagactag tecacagate aagatettaa
                                                                          480
cagttaattg cngntgggtg ttgggaatgn gcgtgaattt tctttactga atttccaaag
                                                                          540
ttttgtatga gnntgtatna natttgtaan ggaaaataca tacatnaaat ttattaccaa
                                                                          600
aacaccaaag attatttaag gaatttgaga cnaaatattt aacccaaatt ccacaatgcc
                                                                          660
aacactnttt taggnatttt ccacatcttt tentttaaga etttatgene eccataatgt
                                                                          720
aacactggta tcacaaagcg tgtgcactga aaccagggat nnagggaacc gancaagatg
                                                                         780
ttnncagnag ttggtangng gatnggaaaa taggnaattt ttaaannaat tnacttttat
                                                                          840
ttccnanatn tccctttggg gatgnettat genececcat gggggneece etttanance etggtaatea nggcentttt ttttggggaa ettttggaaa aaanttnaag gggaangttt
                                                                         900
                                                                         960
ttacccataa tttccccaaa ggnanggggn acncnttttt ggaanateet ttnggcncct
                                                                        1020
                                                                        1024
      <210> 26
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 26
gtgcgatgca tgcncgagcg gccgccagtg tgatggatat ctgcagaatt cgccctttcg
ageggeegee egggeaggta etttttttt tttttttt tttttttt tttttttag attecacata
                                                                         120
tgagtaaaat catgtggtat ttgacttgcc ttttaaaaca cagtgaagaa tctgtcttac
                                                                         180
tttattcagg gtaggagaag ctacctgggc tccccataaa tgaggtgctc catcccatca
                                                                         240
tacagececa teatatteag tgetteecag atgaceteet caggggtgea gtagecetet
                                                                         300
atgaagatta tgcttaggat aagtatgaga atgccagtct tgggcatgct ctggacatca
                                                                         360
ctcagcatcc catcataggt gaggcccagg gaggtgacaa ggacaaagga gtggccagtg
                                                                         420
ggatccactt cctttacatc aatgccaaag accagcagca tgcactcgga ggcttcacta
                                                                         480
aacaacaaag ggaagtggtc ttcataattt tttatgacac tctccagtat ttctgccttt
                                                                         540
gtgatcggct ccttcatttg atacttgaag agcagaaact gcaccaaatc agtcaccttt
                                                                         600
tcatctatct cacttctggg gtaaagactc actgtctggc aggacctgta gggtgcttgg
                                                                         660
gacteteete ettttggetg etggageeet caacaagatt gatetaatgg gaagggaaac
                                                                         720
caaccnaccg aanggggang gagcaggetn ttetgaagca etetggggga aggattttgg
                                                                         780
ngtnenenat catheagean gnaaacetee eneegggggt geettggnna ttananggtt
                                                                         840
agcaaggang gaggacgnag gaananggan gnangnaggg aaaaagangg attggaaaan
                                                                         900
agggancetn ggtgggaaat tggggttttn nagcaateee cenecaaaaa nenaggggaa
                                                                         960
ccctgttcaa cccncanggc cnggnttcca cttttggaat ttgaaanttt cctcaaggaa
                                                                        1020
ngaa
                                                                        1024
      <210> 27
      <211> 935
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (935)
      <223> n = A, T, C or G
      <400> 27
acgcggggtg gggggggtcc tggtctttgg cttctcgact cggtcctgtt tcgacagcga
                                                                          60
```

```
acatgtcgcg gcctgtcaga aataggaagg ttgttgatta ctcacagttt caggaatctg
atgatgcaga tgaagattat ggaagagatt cgggccctcc cactaagaaa attcgatcat
                                                                       180
                                                                       240
ctccccgaga agctaaaaat aagaggcgat ctggaaagaa ttcacaggaa gatagtgagg
actcagaaga caaagatgtg aagaccaaga aggatgattc tcactcagca gaggatagtg
                                                                       300
                                                                       360
aagatgaaaa agaagatcat aaaaatgtgc gccaacaacg gcaggcggca tctaaagcag
cttctaaaca gagagagatg ctcatggaag atgtgggcag tgaggaagaa caagaagag
                                                                       420
                                                                       480
aggatgagge accattccag gagaattccg gcagcgatga agatttccta atggaagatg
                                                                       540
atgacgatag tgactatggc agttcgaaaa agaaaaacaa aaagatggtt aagaagtcca
                                                                       600
aacctgaaag aaaagaaaag aaaatgccca aacccagact aaaggctaca gtgacgccaa
gtccagtgaa aggcaaangg aaaattnggt cgccccacag cttcaaaggc atcaaanggg
                                                                       660
aaagaateen tetecaaaag aagaaagatg agggaacegg aaaaceecce agaaaaggaa
                                                                       720
aacatetana ageeecccaa eccagaaate tggggataaa ggggetgaaa aataaaccce
                                                                       780
cntttgggga agntttaaaa ttatgaangg nctggggaaa aaatttttt aaaaaannnn
                                                                       840
                                                                       900
nnnnnnnna aaaaaanttt cctgcccggg ggggcgccnc naaaggggga anttcaanaa
aaangggggc ggtttaaaaa ggggtttcca cccn
                                                                       935
      <210> 28
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 28
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                                                                        60
atctgtggac acttaatgca actgtttaaa aatgataatc acgagttatg tagcaacgtg
                                                                        120
                                                                        180
gaaatatatt tacagaacat taagtggaga aagcaggaca cgaaagtata tttatactac
                                                                        240
agttataact caacagttca tttatatgct gttcatttaa cagttcattt aaacagttca
                                                                        300
ttataactgt ttaaaaatat atatgcttat agtcaaaagc tgttgtggtg ttgttgttgt
                                                                       360
aggettatag tigageatta tittettaaa titetigaat gitettatig giagigitae
                                                                        420
taaaaagtti atgatcacat tttcattgtg aacataattt gaactcatta tcacacactt
                                                                        480
ggaaaataca gaaaagtgga gaaaaaaaaa tcatatcccc accatccaaa gacatatact
ctcctcttat cttgttcatt cttgnttctg tgcacaggtt tatgattata actgtgtcaa
                                                                        540
aatgtatatt caaaatagct gttacattac ctttgtggaa ttatggttaa atactttcac
                                                                        600
tttaattttt tcaaatqttc cctataataa tqtcctqata acagtgtatt atgtgtgtct
                                                                        660
                                                                        720
ccattggtgt gcataataca tacccagagg aaaaattaga aaataaagta aattatttta
                                                                        780
aaaaattacc tatattcccc aacacctaac aactactgnt aacatcttga nctggttcct
                                                                        840
ctatcttggt tcaaqtqcac accgcttgng aataacaagg gttaaaaaatg ngngccataa
                                                                        900
aggtontaaa atggaaaagg atgtgggaaa aatnacctaa aaataggggt ggccattggg
                                                                       960
gggnaatttg ggttaaaaaa tttgggctcn aaaatncctt aaaaaaaanc ctttgggggt
tttgggaaaa aaaaatttta ggggagggaa ttttccattt ccaaatntta ntccntactc
                                                                       1020
                                                                       1024
ntta
      <210> 29
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 29
                                                                         60
taggatncat getegagegg cegneagtgt gatggatate tgenagaata egecetteca
                                                                        120
tectaatacg acteactata gggetegage ggtegeceag geaggtgeta acaaaceaaa
aacctgtgca cagaaacang atgaagaaaa tatatcaaga tgtaaancac actctttggn
                                                                        180
tggtgaaaac atgggtgagt ttctcttcta cntttctgcn antncanagn ttctataatg
                                                                        240
                                                                        300
aacacatttc atatgtaatg ganntnintg tagtgnaagg tggactaccg gaacactaga
```

```
atgatgacct ttcaaggaaa ccgaancaaa ntnaccntan tcccacaana accacannac
tattnentgg tnntnatgtt tetteceate titgaeattg atgentaett aggaetaneg
                                                                         420
                                                                         480
ccctaataat cccagacttn ggcacagatc aaganggtaa cnggtgattg gaggtgggtn
                                                                         540
geoggaantt ggggtgantg tintitatgg antinecann tititggtang ngattgnnna
                                                                         600
aaattngaan nggaaacnet taettnaant tgnttaeenn aaeneenagg atnttttaag
                                                                         660
gattnggggc cnaaattttt acccaaattc cnncaangcc ancnetgtnt aagtcatttt
caaanttttt tonottaaag acottaaggo cocotaaggt aacotgggaa tanaaggggg
                                                                         720
                                                                         780
ggcacntggn accaggntcc nagggaacng nnccaagant tttccccntt ntttgtttgg
gggttgggaa atnnnngnaa attttttaaa ggtaatncac ttaatttgcc aaaggaattc
                                                                         840
ccttnggggg nggnnttatt gcncacccat gggagacccc cntaaggccc cnggaataag
                                                                         900
ggcctttttt tttngggacc atttgggaaa aatttaaang ggaaggcnnt ttgnaccctt
                                                                         960
                                                                        1020
aattteecca aggnaaangg aaccneeent tttgganatt geattttngg eecegttttt
                                                                        1024
      <210> 30
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
gtgcgctcta gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc
ctttcgagcg gccgcccggg caggtacttt aattttgctt gttcaaatga tctacactta
                                                                         120
cattttgcaa atctttttt ttaaattttt taaattttat atttttttc cagccaactc
                                                                         180
                                                                         240
aaggccaaaa aaaatttott aatatagtta ttatgcgagg ggaggggaag caaaggagca
caggtagtcc acagaataag acacaagaaa cctcaagctg tgaggtcaat ttgtaattaa
                                                                         300
                                                                         360
aagaatacta agattagatg aacacaacac tcagaaatac tctaggagag ctgaaaaaga
aggaacagat gttaacaaaa caaattaagg ctgctgggga acctgagtcc atgttaagct
                                                                         420
tgggttgact gtaaagaatt ttttttttt taatgcaagt tagacatgga gttagagggt
                                                                          480
cagataaata acgaagagaa ttaagttagc gatagaaaga tctaaggata ctagctcctg
                                                                         540
ggcacctagg gtgcaaactg acttgtggca gcataagctg atgctgcaca ggggacccaa gccatgttgc tacttgtcac ttaaggcang aagcgcacaa aggaagtgat gaaagggtat
                                                                          600
                                                                          660
                                                                          720
tagectgeaa cattatttae ageatganag ceteteetae gggteecaae etteattagg
cactactggt gattcaagtg aatgggttgt aacccantcc ttaaaaggca aaggatgtta
                                                                          780
ggantttaca gggaaaaaag cttccggggt tttancaatt caccaatcan caaaccacat
                                                                          840
                                                                          900
attgaagttt ggttaaaaaa aaaaanannn anaaaaaagt nccctcggcc gngaaacanc
                                                                          960
cctaaggggg naaattccag canactgggn gggccgntta caaaggggtt cgaaccncgg
                                                                         1020
taccaaacct tgggggttaa ncaaggggca aaancgggtt ncccgnnggg aaaattgttt
                                                                         1024
nccg
      <210> 31
      <211> 1019
       <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1)...(1019)
       \langle 223 \rangle n = A,T,C or G
       <400> 31
gtgngatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt cgccctttcg
                                                                           60
agoggoogoo ogggoaggta ocatgotgao ttottggtat ottitaaggo ctaattitoo
                                                                          120
cttccttgag attactgtag tgtgttccag ctaatttcta tttggaaacg agttggaaca
                                                                          180
gctgaaaact aggtattatt gaaggcaaag cagcctcacg tcagtttttt atcagctcat
                                                                          240
ttgggaagtt ttttttttt tttttttta attaattaga aagtaggctg ggcacggtgg
                                                                          300
ctcatgccta taatcccagc acttggggag gccgaggatc tectetetgg tggatcactt
                                                                          360
gagggcagga gttaagagac catcetggce aacatgatga aaccetgtet ctactaaaaa
                                                                          420
```

```
tacaaaaagt agctgggcgt ggtggcatac tcttacaatc ccagctactt gggaggctga
                                                                        480
ggcaggagaa tcacttgaac ctaggaagca gaggttgcag tgggccaaga tcacaccact
                                                                        540
atactctagc ctgggcgaca gaggtgggga aaaaagtagg acccctgtcc tatattcagg tttttctcac atatatgaac ccatctaaat tctacgttgt taaaggtanc ttaggttaat
                                                                        600
                                                                        660
                                                                        720
taaqtccata cttatttaag accaatatgg ggtgaaatgg gattttttt taaaaatcct
                                                                        780
acagntnagg ctttccnact ttccttcnaa atgaggaaaa aaaggtgaca aaaattcaag
tgtcaatgtc ccctcctggg gaaanaggtt tanaaaaaca acaggctcaa ccttctgaac
                                                                        840
tnctaacaan ttcccttnga aanttaacga anccattaaa atcnngattt taaaaagagga
                                                                        900
aaanaaaaa gttcctcggn cggnnacaan cctaagggng aaattccaca aaaanngggg
                                                                        960
                                                                       1019
ggcctttana aagnggttcc nacccggtac aaaaccttgg gnttaaccan gggccaant
      <210> 32
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 32
accgccctcg natccctagt aacggccgcc agtgtgctgg aattcgccct tgttgttggg
                                                                        120
tgttgggaat atgtgtgaat tttctttact gaatttccaa agttttgtat gagtatgtat
tatatttgta atggaaaata catacataaa atttattacc aaaacaccaa agattattta
                                                                        180
                                                                        240
aggaatttga gacaaaatat ttaaccaaat tcccacaatg acaacactat tttagttatt
ttccacatct tttcatttaa gactttatgc acacatattt aacactgtta tcacaagcgt
                                                                         300
gtgcactgaa acaagataga ggaaacagat caagatgtta gcagtagttg ttaggtgttg
                                                                        360
ggaatatagg taatttttta aaataattta ctttatttc taattttcc tctgggtatg
                                                                         420
tattatgcac accaatggag acacacataa tacactgtta tcaggacatt attataggga
                                                                         480
acatttgaaa aaattaaagt gaaagtattt aaccataatt ccacaaaggt aatgtaacag
                                                                         540
ctattttgaa tatacatttt gacacagtta taatcataaa cctgtgcaca gaaacaagaa
                                                                         600
tgaacaagat aagaggagag tatatgtett tggatggtgg ggatatgatt tttttteete
                                                                         660
cacttttctg nattttccaa gtgtgtgata atgagttcaa attatgttca caatgaaaat
                                                                         720
                                                                         780
gtgatcatta aactttttag taacactacc aataaaggaa ccatttcaag aaaatttaag
gaaaaataat gotcaactat taagootaco acaaccaaca cocacaacag cttttggact
                                                                         840
                                                                         900
attaagenta tatattttta aenggtatta atggaactgg ttaaatgaac tggtaaaagg
aaccgcatnt taaatggact ggtgnggtta taaccggtgg tataaaaana cctttggggc
                                                                         960
                                                                        1020
ctggtttttc ccttaanggt ctgnaaanat attttcncgt ngtccanacc ncgggatatc
                                                                        1024
      <210> 33
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1024)
      <223> n = A, T, C \text{ or } G
      <400> 33
gccntcnaga cncatgeteg ageggnegne agngtgatgg atatnnngea gagnnegeee
ttccancena atacgacnea ctatagggen nnennnntng gennetttgn tgccccteen
                                                                         120
ctcgnataat anctatatta acgaaattgt nctggccttg agttggctgg agagaaatat
                                                                         180
tnngagnnnn accngtnnnn ntnngnnatc ngtaaantgt aanagtagnt catttgaaca
                                                                         240
                                                                         300
agcaatnatt naantaccca ctggnggaaa ngngnctgaa tcttactctt ntggatctgc
                                                                         360
aggantaggg cttgtnagta tgtcaaanat gcnnncagtg tcaangttta ngccnattgt
aganetngta geaggaanen aenntgangg anenneagaa nggagneetn anacatnnee
                                                                         420
                                                                         480
agatntacga ggngagagga gacanacnga gaaagacacc ntaggnncga nctgnagaag
gncaggattc tgagaatgaa ntgcncggnn agtccnganc agattggaaa aggagnttct
                                                                         540
                                                                         600
ganggnatgg tgcacnngag ggctgacngg tangaggnac tgntgttgga acgnacatag
```

```
cgaaagntgn tgngcagtga ggattactac atgnngaaag gactcttgaa acgaggaact
                                                                      660
                                                                      720
aactgtgatg ncanggctga agtttgggcn nccatacttt gnaggttaca attnttngca
                                                                      780
gtggncgncc cgtttaaana gccnttttga tggaaantca agggtgnncg gtacnacctt
contttaggg nacaaggent thecgantgg gthgecagga agaanganng connancect
                                                                      840
                                                                      900
anningginggg cocottaatn goachgggtg aacaatgcha accotogggt tattggaach
                                                                      960
accgnggana anatggttac cgaaccatta ngtggggnna aacccggacc ccggaaggct
tttttnncct engggtaaaa acttaacaga cenatttttt geeegeentt taacangtet
                                                                    1020
tttt
      <210> 34
      <211> 982
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(982)
      <223> n = A, T, C or G
acaacaatct aagcaaatct caaatacaac atacttgtaa ttagaacaca atgcaatgac
                                                                      60
ttgattttag caagaactag acacttaatt tggtaaaaga aaccaaacaa tgcattatat
                                                                      120
tgaatactaa gctaagttac cataattagt cttacaaatt ctcaaatttc acaactactt
                                                                      180
tigaacatet aaatttaaac etaaattttt taattaaatg eetgtteaac aaagetaatt
                                                                      240
ggaacaaaca catttatgta aatttacatt ctagaatacc agggtaaaca aggagacgtt
                                                                      300
attoaaagat gaatgagaaa gttotattot tittoatoat tigtgigato aggitgoaaa
                                                                      360
ggacatgete ttteetegat gaaactgatg tegaattagt ggeagaggtg gaagaaccaa
                                                                      420
gcacctttct gggggctcga gcagccacca cttttctgta agtgcctggg aacactgtct
                                                                      480
540
cageegaagg tgtttcactg ggacaaggce eegegttace tgeeegggge gggeegeteg
                                                                      600
                                                                      660
aaanggcgaa ttccaagcaa cactgggcgg gccgtttacn nagtgggatt cggngctcgg
gtancaaggc ttgggggtaa tcaaggggca atagccggtt ttcccnqqqg tgaaaaatgg
                                                                      720
tnttccgngc acaantccca nacaancatt ccgaagccgg gaancntnaa agtgttaaaa
                                                                      780
ncctgggggt ngcccaaatg angtggngct naactcccat ttaaattngc gnttgcgcc
                                                                      840
nannggcong cotttocaat tnoggggaaa cotgttnogt gocaagtogg cantaaagaa
                                                                      900
atcneggena antecceggg gnaaagggeg ggnttgeegt nttgggggge gnetteeggn
                                                                      960
                                                                      982
tttcccgggc caaagggann ng
      <210> 35
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
     <223> n = A,T,C or G
     <400> 35
cttggcccgc cctcggatcc ctagtaacgg ccgccagtgt gctggaattc gcccttccat
                                                                      120
ectaatacga etcactatag ggetegageg geegeeeggg caggtataaa atttaaaaaa
tttaaaaaaa aagatttgca aaatgtaagt gtagatcatt tgaacaagca aaattaaagt
                                                                      180
acccactggg ggaaatgtgt ctgaatctta ctcttctgga tctgcaggat tagggcttgg
                                                                      240
aagtatgtca aagatgcagg gagtgtcaaa gtttaggaag attgtagagc tgagagcaag
                                                                     300
aagcagaaat gagtgagtca aagaagggag teetaataca teaccagate taggagggga
                                                                      360
gaggagacag acagaagaaa acaccagagg caagaactgt agaaggccag gtttctgaga
                                                                      420
atgaattgag cggggtgtcc tgagcagttt ggaaaaggag tttttgatgg tatggtgtag
                                                                      480
gtgagggetg getgeatagg aaggaetgag gttggagegg acategggaa agetgagggg
                                                                      540
cagtgaggtt tactacatgg gaaaaggact cttgaaacga gaatcagtgt tgatgtcagg
                                                                      600
gtgaactttg tgggtacatt acttggtgtt aacattggtg gcagtggtaa gccccttttc
                                                                      660
agaaagcaac ttgcttgtaa gtcanggtgt ccggtccaac ctttaactag tgaaaaggta
                                                                      720
gtaaccaatg gtaaaccagg agaatgattg gttnaaccct atctgnggac acttaaatgc
                                                                     780
```

```
cactggttta aaaatggnaa tcacgagttt tgtancaacc ggggnaatat atttaccgga
                                                                       840
                                                                       900
acctttantg ggnnaaagcc ggncnccnaa ggntttttat tncttcnggt tttaacctta
acaggincaa tittataatgo ogggocatti aacaggicat tittaaccog gionnittit
                                                                       960
                                                                      1020
acconggita aaaaannini atgcctttag gncaaaanci tittinngggg gntintigtt
                                                                       1024
      <210> 36
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 36
taccgcctcg natccctagt aacggccgcc agtgtgctgg aattcgccct tccatcctaa
                                                                        60
                                                                       120
tacgactcac tatagggetc gageggeege eeggggeagg tageaaatgt tgtggeatte
ctcctcctcc tcaagtcttt acccgaaact acttcccaag agaggttgct cttcccaaag
                                                                       180
aatcacctgc cctgggacca tatggggcta ggctgagggt caggagccaa gagcctggtc
                                                                       240
ccaactetgt etgtggetta etgtgagaee etaggeaagt tgettaeeet etetgggget
                                                                       300
                                                                       360
caaattette etetttgaaa taggaataat aactteatea etagaattet teaectggtt
gttgtgaagt taatcagaat aaatgtggag ataatacatg aatgagcgta cagaatatta
                                                                       420
tttggctgtt ctgtggcatc gatataggtc atgatagtga caatagtgtc tgtcattgta
                                                                       480
ttccacacca cttcttccct cagctaaagc aggaaaagaa aggaggtaag tctctctgtg
                                                                       540
                                                                       600
ttttttcttc ctttccccaa gcccactttg ttaccttcct tggttgctgg atgagaaatt
agtcagaggg tcagagagga cctcaacttc atatgcttta aatagagcat atgcaatttt
                                                                       660
aaaccatect ettaaccaat tittetitte titteagiit tieeccagii ataetiecae
                                                                       720
atgatacacc agagaaggaa gatcetttet catactgaag aacacaagaa atttgaatag
                                                                       780
ttcctgcttt ctgnaccttc caccaaaaca aacttttcaa tgatccaaaa aactggcttt
                                                                       840
gnactgggga gtcacggaat gggccggctt ccangganca tggcggnngg gcctttgcgg
                                                                       900
                                                                       960
ngtegggeet gtggtggegg eggaaaggna acegggggea tggnttneeg ageetggtet
tgcccccng ggncatggtg tggaggcaaa gaancetgaa gtccccacng gcccccggga
                                                                       1020
agna
                                                                       1024
      <210> 37
      <211> 1024
      <212> DNA
     <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 37
                                                                        60
cttggcaccg cnctcggatc cctagtaacg gccgccagtg tgctggaatt cgcccttcca
tectaatacg acteactata gggetegage ggeegeeegg geaggtgaat teageggeeg
                                                                       120
ctttttttt tttttttt tttttttt acagggcggc tttttgttt atttctgctt
                                                                       180
ttttcccttt ttcttaaaaa aattaaataa agttctcatt atttccccaa tatacatcaa
                                                                       240
atgagttttc atgcaaagca gcagtcacag aggcagaact gtccccagct cgtgcctntc
                                                                       300
                                                                       360
ggcttgaaga accaectint eceggeeeeg ggttetetgg ngtteteact gaggatggae
gacgcccact gtctntccca gctggaactg gctatgacga aacttggctg gcgtagggag
                                                                       420
aggagteete eeetnteeee aggatggggt eteaggggae ageaagetet ggggeetgat
                                                                       480
coccateact tgncetteca tetgagacte ceagtgtgae agettggaea ggtecetett
                                                                       540
eccaggaatg egaggeteet ceteteaget etcaatggae atggeattaa tgagetgete
                                                                       600
caccttataa gccagccgnt gccgccgtgc ctgctcatcc tgctctaggg ccccgatgag
                                                                       660
ctcctcacta tacttgctga cataggagta gatctcattg ggggcactca acatgttgaa
                                                                       720
actocacggn gtgcaggcgg gactgctcgg cgagggtagg cattcatggc ctggtcactg
                                                                       780
gatggetggg aacettggee aaggetgegg nagnatettt teceeceage tnttggnaac
                                                                       840
ttggggaagg cccttgggca taaaaagcaa cttggttgga anggggaggn ctttgcccaa
                                                                       900
```

960

```
cccgggggct ttggacgttg gaacaagagt nccttgaagg gtttgggncc cccncaaaaa
                                                                      1020
ngcangente egggaaagee geeettgggg gtgncaaaae eeenaactgg ggggttnttn
                                                                      1024
      <210> 38
      <211> .1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 38
taccgccctc gcatccctag taacggccgc cagtgtgctg gaattcgccc ttccatccta
                                                                        60
                                                                       120
atacgactca ctatagggct cggcggccgc ccgggcaggt gccgcttttt ttttttttt
ttttttttt tttttgcttc acaactgttt attttaagct gaaacttcaa tattcattga
                                                                       180
                                                                       240
ttacctataa taatagttac tcataaatgt agttaataat taaatataaa aattattatt
                                                                       300
tttacattta tataaatctc tgaaaaaatac caagttttga gagatagagc aagaaattgc
                                                                       360
ttanaaaatt gcaggaagcc tgaanaatct cagcatcagt caaagcaggt ncaacaaaaa
                                                                       420
acaattttag acattcattt tttgctttaa gagtgcttaa aataaatgat cacagaatga
ataactgatg tatggcaaaa atgagtttaa aactatgtaa gctccaaggc cccaatgtgt
                                                                       480
                                                                       540
ataagaatto tttggaagga ttttgaagga ctgtaaatgt tgcaaataaa agtaaaaact
agtagttagg caatgngttt taaactatag ngtcacctac tgntcttctg gtgcctaact
                                                                       600
gnattettea acatettett tteeettttg attagaaate etggtetace teaaaggttt
                                                                        660
tgcattgntt tctagggaca tcagcaaact ggtagaccat atgagaaaca gaaataaaca
                                                                       720
gtaatattat ctttagaaat taagcattat gtacncagtg agaaatggat tgacttgata
                                                                        780
gacettaaac ccetteette ettteacace etttntagna ccaeetaang gtateeggat
                                                                        840
                                                                        900
tggggatggg gcccnctnt ggtaatcccc ctnnagtcag gacaggggcc cctaagggcc
                                                                       960
caattttntt togaattaga gaaatnoocc attttttggg gggttggcaa gtnttanccc
                                                                       1020
anggettgea aaggettntt tttgaagana eneceaaace eggggnettn tttttengga
                                                                       1024
atca
      <210> 39
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 39
tegecegage agnangenen ageggnenne agtgtgatgg ttatngtgnn gnnttegene
                                                                         60
                                                                        120
tnecatneta atnetactea etatagggnn entgngnene nnggenagtn ntnaennntn
annggtgtaa ctgatatcat ntcncnnana ccatggttac atnnanntag gtctcnnang
                                                                        180
                                                                        240
nataccange tntgagagnt ngacenggaa ntegnttnga aannttgnge gangeengat
caatateene atengneaca geggnteege aagetgacaa tnetgnanat tnattnttgg
                                                                        300
                                                                        360
tttannganc nnttacangn atggnncccn gagatgcatg nnggagtatg gcaaagatgn
ntgtaaaact atgtaagctc naaggcccca atgtgnataa cagttentgg nanggantnt
                                                                        420
ganggantgt aagngntnaa nntnaangnn anannnaaga ggtangncat gagcccnaaa
                                                                        480
ctgtagnnnt anctacagng cttanggcgc ctacctggga caggenacgn cttcattaac
                                                                        540
cttttgatta gaannacggg ggtaacncac nggttnngca tggtccagta ggngcattgn
                                                                        600
congonggge aaccatatge tgngoncaaa taaacggtge ttttanctca nnagattaaa
                                                                        660
gctttttggc cacaggggna aaagnatggc ttganaggcc ttaaaccccc gtactcngtn
                                                                        720
                                                                        780
cacccettin gagaacenee taacgggate tggaaatgng atggeeeeet nitgggaaac
nccctanaag anacctcngg ngaccccttg nggcccattt tgangtttag nacngcaatt
                                                                        840
tncccatttt tgnggttttt gccaacccta agncatnggc tggcaatgga ntgnnttttc
                                                                        900
                                                                        960
caatagaanc aaaccccggn tnttttttgg ggggnatcag ggttaagggn nttggcaaaa
nnaaannggc ncnnggnaaa aatttttccc nggtntatcn aaanncccca aagcttttng
                                                                       1020
```

```
1024
caan
      <210> 40
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 40
                                                                        60
nggacgcatg ctcgagcggc cgccagngng atggatntng tgcagaantc gccctttcat
geotatgate congeacttg gngaggeoga ggateteete tetgggggat caettgaggg
                                                                       120
                                                                       180
caggagttaa gagaccatcc tggccaccat gatgaaaccc tgtcnctact nnacatacag
                                                                       240
gaagnagetg gnegngntgg catactetta caateecage taettggnag gntgangeag
                                                                       300
ganaatcact ngnacctang aagcagaggn tgcatntgnn ccaanancac accactatac
thtagcctgn acgacagagg tgntgataan agcnggaccc ctgactatat ncaggntttt
                                                                       360
ctgacntnna nnancncatc taaatnctac geegtntgag gtegentagg ttangtagnn
                                                                       420
natnotnatt tatgaccaat atgntgtnan acggentnnt gntnaaaant tntacagnan
                                                                       480
                                                                       540
ggcngnctac nttncttata atgnggaaaa cggtgnctga natncangtg nnnnngtccn
nttnntggna agaggnttng aaanncanca gtgcaccttn tgaactctac nagnagcttn
                                                                       600
                                                                       660
tgaagctaac naagcnttaa natnagatgg cntgntagga ctgtacnngc anggaaagat
tcacaaaact ggacattett naccgagata ngntettget ttaccgggga ggacnnntec
                                                                       720
aaggntgtnt naagagggac agtcagctta gtnntgctng ggtagagaaa accangactt
                                                                       780
natntgtgag cttgatnggc agaacctggn nanccttgga agagentnga ttgncengat
                                                                       840
ccctgaaagg gennnettna ecctateggg gaeettnnna acctettang tggcaegcaa
                                                                       900
ggcacnaacc nggcncnttt caagaatene nggaatenag geceetttet tgggntnane
                                                                       960
                                                                      1020
engnnnnnee egttnagnee enegggnaaa anntettggg nntttecaat eeengnggnn
                                                                      1024
nttt
      <210> 41
      <211> 1004
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1004)
      <223> n = A,T,C or G
      <400> 41
ggtnnnntta atcatcgccn gcttggtacc gagctcggat ccctagtaac ggccgccagt
                                                                        60
                                                                       120
gtgctggaat tcgcccttag cggccgcccg ggcaggtact tcccaccact ggaaatgtta
gcataaaaga acttggagag gaaaaaagta ttaacaaaac tgcagtctgc actctttaaa
                                                                       180
                                                                       240
cctgtttaag gctcttcatc ctggttagca aaaggtgtga atgtaatgtg atggaattta
aaagttttat gagaccaggc acagtggete acgactgtaa ttecagcagt ttaggaagce
                                                                       300
gaagtgtgca gatcacctga ggtccggaga ccagcctggc caacatggtg aaaccctgtc
                                                                       360
                                                                       420
tctactagaa atacaaaaat tagccaggtg tggtggcggg cgcctgtaat cccaactact
caggaggctg aggctagaga atcacttgaa cccagcaggc ggaggttgcg gtgagtcgag
                                                                       480
atcacgccat tgcactccag cctgtgcgac aagagcgaaa ctctgtctca aaaagatttt
                                                                       540
ataagaaagc agagcttttc cttgaagctc ttttgaagtg gtagcttaat tagtattttg
                                                                       600
ntgaaaatac tttaaagatg cctagtgaaa agcctactaa agtgctgtga aaaatggggt
                                                                       660
ttanaacatt ttattttcan gctttatggc ctattttcca ttgnggcaag tgcaaaacta
                                                                       720
ccctggccca aangaagggc agagaacata attacctctt anggcacatt tcattctttg
                                                                       780
cagetttget taatceagtn getaagttet ttacetnaac cetgnaggna ttgaacntta
                                                                       840
ttnccatttn ngnaaaaggg tcaccctntt nnnacaatnt tncannanct ttttnggaag
                                                                       900
ttancenttg geettaaaan ttnaaaante entntggnnt teeetttatn cecennangg
                                                                       960
                                                                       1004
gnnnantang gnntggattt ttaanggnee ttggeengaa ceee
```

```
<211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (1020)
      <223> n = A, T, C or G
      <400> 42
nnnnnnnnn nnnnngattg ggcctctag atgcatgctc gagcggccgc cagtgtgatg
                                                                        60
                                                                       120
gatatotgoa gaattogooc ttagogtggt cgcggccgag gtacotttga taattoctag
acctctattt tcattctgtg tattaatgtg aataacagat ggatatttta atatttaagg
                                                                       180
cagatggtaa actiticctat aggictigig agacticgic tiataggcig aacaccatte
                                                                       240
acaaaatgta ataatgcttc attccttcag gttgaggtaa agaacttgag caactggatt
                                                                       300
agcaaagctg caaagaatga aatgtggcct aagatgtaat tatgttctct gcccttcctt
                                                                       360
tgggccaggg tagttttgca cttgacacaa tggaaaatag gccataaagc ctgaaaataa
                                                                       420
aatgttetaa accecaatet cacageaett tagtaggett tteactagge atetttaaag
                                                                       480
tattttcaac aaaatactaa ttaagctacc acttcaaaag agcttcaagg aaaagctctg
                                                                       540
ctttcttata aaatcttttt gagacagagt ttcgctcttg tcgcacaggc tggagtgcaa
                                                                       600
tggcgtgate tegacteace geaaceteeg cetgetgggt teaagtgatt etetageete
                                                                       660
agcettetgg agtaagting gaatacagge geeeegneaa cacacetgge taaattitgn
                                                                       720
atttctagta naanaccagg ttttnancat gttggncaag gctggtcttc cggaaccttn
                                                                       780
angtgatetg gacacetttg gnttteetaa actgggtgga aattancage gggaacenet
                                                                       840
ggggcctggc tcattaaacc tttaaaatnc cttnccattc anttcncacc ttttggtaac
                                                                       900
cccgnatgaa aaccettnaa ccgggtttta agnangenna nnngggnnat ttgtaaaact
                                                                       960
ttttccccnt tccaagtcnt ttaagccaan nntttnccng gnnnngggan ccctnccggc
      <210> 43
      <211> 1020
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1020)
      \langle 223 \rangle n = A,T,C or G
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ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                        60
getggaatte geeettageg tggtegegge egaggtaett tttactgett tgtetteaag
                                                                       120
geetagtgta ataattaaca tetagtatgt gtttgatgga tageeaattt ttgetteatt
                                                                       180
ggtatgttgt taccacagtc attggtagag tcaatatatg aatgaagaaa gtataacaaa
                                                                       240
tttgccctct agtagagtac ttttttttt tttttttt tttttttt ttttgttttt ttttgttttt
                                                                       300
360
tttttttttt ngnnnttttn nenttttttn aannaaaaan cqqcccnann accnnccnnc
                                                                       420
nnntttttt nnenggeenn cenggnttng gggnngggnn enttnnggge ennnnggnen ettttteen naaggetttt ggggttttng gggnaaantt tnggnnenan nnnggeeena
                                                                       480
                                                                       540
aaaaanttnn qnccnanaan cgcnntttcc nannnnttnn cnttggggcc caaaaanttn
                                                                       600
cgnaaccccn tgggcnnaaa gggcnttgnt tttttttgggg nncccnaaac canggggggg
                                                                       660
cnnaaaaaat gncccttgaa ntttttaaaa aaccctntgg naaaancccc nngggttccc
                                                                       720
communico ttanttttnn acanaanggn mnaaangggg nocommaaa naconttngg
                                                                       780
ggccnttttt tnacaaattt ggggntttnn aaaggggttt tnnggggggc cctntatncc
                                                                       840
ccnaaaaang aaagggnnnc ccccccennn nnnnnnnncc cnaanccccc ggnnnttttn
                                                                       900
cengggggg ceennnaaaa gggggnaant ttnggnaaan neennnnnen ggggggneen
                                                                       960
ttnaaanntc nntttnanng gggccennnn nncccennnn annggggggn nnaaaaaccn
                                                                      1020
      <210> 44
     <211> 1024
     <212> DNA
     <213> Homo Sapien
```

<220>

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<221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 44
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atotgoagaa ttogooottt ogagoggoog coogggoagg tacgoggggo toggogotgo
                                                                     120
ctacggaggt ggcagccatc teettetegg cateatggee geeeteagac ceettgtgaa
                                                                     180
gcccaagatc gtcaaaaaga gaaccaagaa gttcatccgg caccagtcag accgatatgt
                                                                     240
                                                                      300
caaaattaag cgtaactggc ggaaacccag aggcattgac aacagggttc gtagaagatt
caagggccag atcttgatgc ccaacattgg ttatggaagc aacaaaaaaa acaaagcaca
                                                                     360
tgctgcccag tggcttccgg aagttcctgg tccacaacgt caaggagctg gaagtgctgc
                                                                      420
tgatgtgcaa caaatcttac tgtgccgaga tcgctcacaa tgtttcctcc aagaaccgca
                                                                      480
                                                                      540
aagccatcgt ggaaagagct gcccaactgg ccatcagagt caccaacccc aatgccaggc
tgcgcagtga agaaaatgag taggcagctc atgtgcacgt tttctgttta aataaatgta
                                                                      600
                                                                      660
720
nnnnnnnnn nnnnnnnnn nnnnnannna aanccennnn aaaanannnn nnnnaaaaag
gettntttta angggeaaat tgggaaaeet ttttnattea aaaatggett ttnecangga
                                                                      780
etggggacca nnttneeeng gggnecaaaa ttgggnttte etttaaneee nttnennaan
                                                                      840
gggaattttt ncccttgggc cttgaaaaac naagcnnnna aaaagnccct tgggnnggaa
                                                                      900
acceptiting ggggaattic enencenting ggggggennt ninnnnnggg accepanting
                                                                      960
gncccaantt ttggggaaaa nnngggnnaa aaagggnnnc cctgggggaa aatgttnccc
                                                                     1020
                                                                     1024
ccca
      <210> 45
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
                                                                       60
ggagnnnntn aatcatacgc cagcttggta ccgagctcgg atccctagta acggccgcca
                                                                      120
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacggcgca ttttgtgcac
acaaaatgtg cgcacacaca cacacacaca cacacagaca ctcctgcaca tggcctgtta
                                                                      180
aagaactaca agggaggtgg gacgcgggaa agtgtatggt gtgggtttgc atcgtctcat
                                                                      240
                                                                      300
cattgattct tctcatattt ttctctgatt agagaaacta aagagaattt tgtgagaaag
gettgaaagt taatgagtta ettetaceaa agtgattaca agcagaaate etcagatget
                                                                      360
                                                                      420
gtagagatgc tgacccacac atccttagct caaggaagcc cctcgcatta gtcaccttca
gccatcagca gcctccacca ttaaccccag tgtgctgtat aaaaaatact ttctacatgt
                                                                      480
                                                                      540
gcccaaattt gaaaagttag gaagcactga tttcaaaagca aatcattcac atttgaactg
tetteagtgt accteggeeg egaceaeget aagggegaat tetgeagata tecateacae
                                                                      600
tggcggccgc tcgagcatgc atctagaggg cccaattcgc cctatagtga gtcgtattac
                                                                      660
aattcacttg ccgtcggttt tacaacgtcg tgactgggaa aacccctgcg ttacccaact
                                                                      720
                                                                      780
taatcgncnt ggagcacatt ccccntttgg ccnactggcg taattaacca aaaaggnccg
gaccgaatcg gccntttcca acaagttggg ccaacctgaa tnggcnaaan ggccccccc
                                                                      840
tgtaaccggn gccattaaac ccccgncggg nnnntngggg tacccccaac ggggaccggt
                                                                      900
taacttggcc anggccttaa ggcccggtcc ttttggtttn ttncctttcn tttttngccc
                                                                      960
                                                                     1020
ntttnccngg nttttcccgn aaagntntaa aaaggggggg tccccnttta ggggtcccaa
                                                                     1024
taaa
      <210> 46
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
```

<220>

<221> misc_feature <222> (1)...(1017) <223> n = A,T,C or G

```
<222> (1)...(1024)
       <223> n = A,T,C or G
       <400> 46
nnngnnnnnn nnnnnnngaa ttgggccctc tagatgcatg ctcgagcggc cgccagtgtg
                                                                          60
atggatatot gcagaattog coottagogt ggtogoggoo gaggtacact gaagacagtt
                                                                         120
caaatgtgaa tgatttgctt tgaaatcagt gcttcctaac ttttcaaatt tgggcacatg
                                                                         180
tagaaagtat tttttataca gcacactggg gttaatggtg gaggctgctg atggctgaag
                                                                         240
gtgactaatg cgaggggctt ccttgagcta aggatgtgtg ggtcagcatc tctacagcat
                                                                         300
etgaggattt etgettgtaa teaetttggt agaagtaaet cattaaettt eaageettte
                                                                         360
tcacaaaatt ctctttagtt tctctaatca gagaaaaata tgagaagaat caatgatgag
                                                                         420
acgatgcaaa cccacaccat acactttccc gcgtcccacc tcccttgtag ttctttaaca
                                                                         480
ggccatgtgc aggagtgtct gtgtgtgtgt gtgtgtgtt gtgcgcacat tttgtgtgca
                                                                         540
caaaatgege egtacetgee egggeggeeg etegaaaggg egaatteeag cacaetggeg
                                                                         600
gncgttacta agtggatccc gagctcggta ccaagcttgg cgtaatcatg gncatagctg
                                                                         660
nttectgtgt gaaattggta teegeteaca attecacaca acatacgage eeggaageen
                                                                         720
taagtgtaaa agccctgggg tgcctnatga gtgagctaac tccattaaat tgcgttgccg
                                                                         780
ctcactggcc ggtttcagtc cggnaaanct gcggncnact gcantaatga atcggncaac.
                                                                         840
gcccccggga aaaaagcggt tgcgaattgg gccctntttc cctttcttgg ttaatggact
                                                                         900
contingent tiggocontic ggnttiggni naacgggatt aanttinnit naaagggggg
                                                                         960
naanacgggt ttncccnana aatcnggggn aaacccccng gaaanaaacn ttggncccaa
                                                                        1020
nggc
                                                                        1024
      <210> 47
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 47
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                                                                          60
gctggaattc gccettagcg tggtcgcggc cgaggtgcat ctgaacattg ccaagcccta
                                                                         120
ggacattccg tagagettgg ggattetgga ceaattggtt cagacaggae acgaaatgee
                                                                         180
tgtttgatgg gttctgcaat taaacaccca actactctct tttcatcaga tataaaaaga
                                                                         240
aaagttttta ttttgtttgg acatttagga acaacttgct ggaagcccaa ttcattatca
                                                                         300
acaagttett ggacatette tacetttttg atagcaaage ttggateatg tggcagaace
                                                                         360
aacacgattt toccatecca aaactotget actacacgit etttetteca acccacatat
                                                                         420
ttgattcctt ccagaaacct gtggtgatgc tgtacctgcc cgggcggcaa gggcgaattc
                                                                         480
tgcagatate cateacactg geggeegete gageatgeat etagagggee caattegeee
                                                                         540
tatagtgagt cgtattacaa ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac
                                                                         600
cctggccgtt acceaactta atcgccttgc agcacatccc cctttcgcca gctggcgtaa
                                                                         660
taagogaaga ggcccgnacc gatcgccctt tccaacagtt gccgcagcct gaatggcgaa
                                                                         720
tggacgcccc ctgtanccgg cgcattaaac cgccggcggg tnnttggggt accccncacg
gggaccggta cactttgnca agggccctaa cggcccggtc cntttcgctt tcttnccttt
                                                                         780
                                                                         840
enttinting ccaegiting coggetitic coopinaage tittaaaatn gggggettee
                                                                         900
entittaggg gitteenaatt aanggetita egggaeeett gaeeeenaaa aaactitinnn
                                                                         960
tttnnggggg gnggggntnc ccntaggggg ccattgnccc ttgnnaaaaa anggtttttn
                                                                        1020
nncc
                                                                        1024
      <210> 48
      <211> 1017
      <212> DNA
      <213> Homo Sapien
```

```
<400> 48
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                                                                   60
gragaatteg ceettgeege cegggeaggt acageateae cacaggttte tggaaggaat
                                                                  120
                                                                  180
caaatatgtg ggttggaaga aagaacgtgt agtagcagag ttttgggatg ggaaaatcgt
gttggttctg ccacatgatc caagctttgc tatcaaaaag gtagaagatg tccaagaact
                                                                  240
tgttgataat gaattgggct tccaqcaagt tgttcctaaa tgtccaaaca aaataaaaac
                                                                  300
                                                                  360
ttttcttttt atatctgatg aaaagagagt agttgggtgt ttaattgcag aacccatcaa
acaggcattt cgtgtcctgt ctgaaccaat tggtccagaa tccccaagct ctacggaatg
                                                                  420
tectaggget tegenatett cagatecace tegenegea coangetaag generaten
                                                                  480
agcacactgg cggccgttac tagtggatcc gagctcggta ccaagcttgg cgtaatcatg
                                                                  540
gtcatagctg tttcctgtgt gaaattgtta tccgctcaca attccacaca acatacgagc
                                                                  600
ccggaagcat aaagtgtaaa gccctggggt gcctaatgag tgagctaact cacattaant
                                                                  660
gegttgeget cactggeege tttccagten ggaaacetgt egtgeeaget geattaatga
                                                                  720
ateggneaac gegeegggga aaaageggtt gegtaattgg gegetettte egetttettg
                                                                  780
                                                                  840
nttacttgac tccttgggct tcggccgttc ggntgcggnn aacggnattc aacttactca
aaaggeggna ataeggtatt ceengnaate nggggataac ceeeggaaan aactttgace
                                                                  900
naaaggcccc caaaaggccc ngaacccgna aaaaagggcn cgnnnnnnnn ggggtttcct
                                                                  960
aaggtteegg ceeetggnn aggttteeca aaaatngnnn cetttnannn nnnnngg
                                                                 1017
      <210> 49
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 49
ggngnnnnnn anatnaaacg ccagcttggt accgagctcg gatccctagt aacggccgcc
                                                                   60
agtgtgctgg aattcgccct tgagctggcc gcccgggcag gtactgaaat tactctgaat
                                                                  120
tcagaaatgt aagtatatgc agctaggtca taaagacact gctttagaga agacatgtat
                                                                  180
tagtggaatg gaacaggtaa catctttgag aagtcaatga gttctgcatg cagggatttc
                                                                  240
accateggaa tgatggcaag aatgatgeet geetgtgtge tteteagagg aegtataaag
                                                                  300
ccactgagga tgagtgctac agtgcttgtg aattgtgggg ccacagacat ttaagttggc
                                                                  360
attgcttttc tcctcctctq cttaatccac ctttataaat atggcagatq qcttaagaca
                                                                  420
ggcatcatca gcatctctgg agatgtgggc tcagagggca agtgggggcc gtgggggttt
                                                                  480
ccactagagg gagggaagtt tetgtttece atgtgttagt tgtagttgte tttgtgette
                                                                  540
accagaaaag aggtagagtg cgcaccttca cactaagagc ccgaaattgt gggtcagtac
                                                                  600
660
tnnnttnnnn ngnnnnnnnn nnnnnnnnnn tttnntnngg nnnncncttn nnnnnnaann
                                                                  720
nngnnnannn nennnnnnn tngnnnnnnn nnnnnenttn ngggnnnang necenannnn
                                                                  780
neconnonna nonnonnon nonnonnon nonnonnon noncenanno nonnonnoton
                                                                  840
900
תתתתתתתת תתתתתתתתת מתתתתתתתת מתחתתתתתת בתתתתתתתת תתתתתתתתת
                                                                  960
1020
nngg
                                                                 1024
     <210> 50
     <211> 1024
     <212> DNA
    <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) ... (1024)
     \langle 223 \rangle n = A,T,C or G
     <400> 50
ggagnnnntn nnthengant gggeeeteta gatgeatget egageggeeg ceagtgtgat
```

```
ggatatetge agaattegee ettagegtgg tegeggeega ggtacaetga ettgagaeca
                                                                     120
                                                                     180
240
                                                                     300
aaaaanaana ntaaaaaaaa tttnaaggta aagntnncnn ntnaaaatct tttagggnna
teentatann nnttttegnn tntttnnngg ntngneetet nntneennnt tttttnggna
                                                                     360
anccenaann ccengnetta cennatgngn cananttaaa anggtnentt nttnngngga
                                                                     420
neteannee eeegeenttt tuntungggg ggnttuneea unggnggnna aatgenenge
                                                                     480
tnatnaanan gggnttnntc cnaaatnngn naanceetga ggnggnaane ntnntggnet
                                                                     540
tnntnengat tnngnnacce cenenngeag anntenttgn nncettantn eegggggnta
                                                                     600
naccetteet ttaaaanene nntgntntna aaaannnttt neetganena tegggntaaa
                                                                     660
ncnnnttttt tgaaaaccnn ggctttttnn aanangetee gntnggenaa etttggggaa
                                                                     720
naaggnnttt tttaaggcct tgctttttag ggccanccta anggngannn nengttgnct
                                                                     780
tgnnngatgg tttttagggn ttcccgggtg ggaccnttnt tggggggaaa ttttggnccn
                                                                     840
aggggntece etnnaagaaa teennnttee nggmemenaa ttmeenmaaa aattmmggm
                                                                     900
conaaanntt tnattgggaa ggnootttgg ttgccconnt aaanggnoon naaaccttta
                                                                     960
                                                                    1020
aangggggn gcntttaatg gcncctttcn ggncccnaaa aaanggggnc cccccnnttt
                                                                    1024
      <210> 51
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 51
gngnnnnntt aacteceget tggtacegag eteggateee tagtaaegge egecagtgtg
                                                                      60
ctggaattcg cccttagcgt ggtcgcggcc gaggtacttt ttttttcttt tctttcttt
                                                                     120
tttttttttt tttaattttt gagatggagt tttgctcttg ttgcccacgc tggagtgcaa
                                                                     180
                                                                     240
tggcgcaatc ttggctcatt gcaacctcca cctcccggat tcaagcgatc cttctgcctt
agetteecaa gtagetggga ttatagaegt gtgeeaecat teecagetga tttttgtatt
                                                                     300
                                                                     360
tttagtagag atggggtttc accacgttgg ccaggctagt ctcgaactcc cgacctcatg
                                                                     420
tgatcctccc accgcagcct cccaaagtgc tgggattaca ggcgtgagcc accatacccg
gttgattgta gacttttgat tggtatttac aaggacccat gagaggcaac aaagagaagt
                                                                     480
tgtcaagaga acagaccctg agaccaatag tttggctcaa gctctggctc cctaacttcc
                                                                     540
taccagtttg accttgggca agttacctaa catctttgtg cctccatttt ctatttgtaa
                                                                     600
                                                                      660
aaggaaacta atagtagtgc ctactttata atagagttat tacaaatatt aaatgagtta
atatttgtaa agtaattaga aaaatgcctg gcacttcaaa agcagccttc atttattctt tggaaataat tttaaatgaa ttcaagggtt atatgtagct tttaggcata tatncctaaa
                                                                     720
                                                                     780
tggcactgta aaactgcana aatatccgat ctttaaaaat ttttgggtaa atttatcata
                                                                     840
                                                                     900
atatggnaac caaatcccat ttaatggctt ttaggggtan ccgatnaaaa ccngaagttt
gcagtttaag concttatgg aangggacco gaaattocaa gganoccann gggaaaaaac
                                                                     960
cccnngagga atnttggccg ntttaantta aancetttgg gtnntttaag nnectaaaaa
                                                                    1020
                                                                     1024
      <210> 52
     <211> 1024
      <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1)...(1024)
     <223> n = A, T, C or G
                                                                      60
gngnnnnnt tnngntteng antgggeeet etagatgeat getegagegg eegecagtgt
gatggatatc tgcagaattc gcccttcgag cggccgcccg ggcaggtact tcaaaactat
                                                                     120
```

tcataagcaa aaatcagtgt caaaaatatt tagtaactta aaaaaaacaa aaagtataag

180

```
tagagacgga caagaactcc tcctqctttc tcccactggg ctcatcgtat ttctgttcca
                                                                       300
ttacataaga gactaaaact gacaaactct gttttatcgc taacacctaa aagcaataaa
                                                                       360
tgtgatttgt taccatatta tgataaaatt taaccaaaaa attttaaaga tcggatattc
tgcagtttac agtgacattt atgtatatat gcctaaaagc tacatataaa ccttgaattc
                                                                       420
atttaaaatt atttccaaag aataaatgaa ggctqctttt gaagtgccag gcatttttct
                                                                       480
                                                                       540
aattacttta caaatattaa ctcatttaat atttgtaata actctattat aaagtaggca
ctactattag tttcctttta caaatagaaa atggaggcac aaagatgtta ggtaacttgc
                                                                       600
                                                                       660
ccaaggtcaa actggtagga agttagggag ccagagcttg agccaaacta ttggtctcag
gggtctgttc tcttgacaac ttctctttgn tgcctctcat gggtccttgt aaataccaat
                                                                       720
caaaagtota caatcaaacc gggtatgggg ctcacgcctg taatcccagc actttgggga
                                                                       780
ggetgeggtg gggaggatee ceatganggt neggagtteg agactageet gggecaaegt
                                                                       B40
ggnggaaacc ccatctntac taaaaattcc aaaatcanct ggggaaggng ggcacacgtc
                                                                       900
tataatccca cttccttggg aagcttaagg ncnnaaggac gcttggaaac ccggaanggn
                                                                       960
gnggttcaat ggancccaaa atgngccatt ggnctttcnc gngggccaac angagccaaa
                                                                       1020
ntcc
                                                                      1024
      <210> 53
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 53
gggnnnnnn tnncttaacg cccgnttggt accgageteg gatecetagt aacggeegee
                                                                        60
agtgtgctgg aattegeeet tagegtggte geggeegagg tacattaett ggtgttaaca
                                                                        120
ttgttggcag tggtagcccc ttttcagaaa gcaacttgct gtaagtcagg gtgtccgttc
                                                                       180
caacetteag etagtgaaaa ggtagtaaca aatggtaaac aagagaatga ttgtttaaac
                                                                       240
                                                                       300
ctatctgtgg acacttaatg caactgttta aaaatgataa tcacgagtta tgtagcaacg
tggaaatata tttacagaac attaagtgga gaaagcagga cacgaaagta tatttatact
                                                                       360
acaqttataa ctcaacaqtt catttatatq ctgttcattt aacagttcat ttaaacagtt
                                                                       420
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ttggaaaata cagaaaagtg gaggaaaaaa aatcatatcc ccaccatcca aagacatata
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eteteetett atettgntea ttettggtte tgngcaeagg tttatgatta taaetgngte
                                                                       720
aaaatgtata ticaaaatag ciggtacatt accittigngg nattatgggt aaatcittica
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etttaatttt tteaaaggte eetatnataa tggeeeggat aacegnggga tttaaggggg
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ctcccatggn gggcataatn cataccenga ggaaaaattn naaaattaag gnaantattt
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ttaaaaaatt ncctatattt cccaaaacct aacaactact ggtaaaaatn ttggaccggn
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ttttttttt ttacatttat gcatacttat cactaacacc ctaataatca cagactagtg
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cacagatcaa gatgttaaca gttaattgtt gttgggtgtt gggaatatgt gtgaattttc
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tttactgaat ttccaaagtt ttgtatgagt atgtattata tttgtaatgg aaaatacata
                                                                       300
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360
cataaaattt attaccaaaa caccaaagat tatttaagga atttgagaca aaatatttaa
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aatttacttt attttctaat ttttcctctg ggtatgtatt atgcacacca atggagacac
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gtatttaacc ataattccac aaaggtaatg taacagctat titgaatata cattitgaca
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cagttataat cataaacctg tgcacagaaa cnagaatgaa cnngattaga ngagagtata
tgtctttgga tggtggggat atgaattttt cctncacttt tctggatttt nccagtgtgn
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gaaaaatgag ttccaaaata tggtcncaat ggnaaatgng anchtnaacc ttttagtanc
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ccttnccttn aggaacattt caggaaantt tannaaaata anggctcaac ttttaggcct
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acannancaa coconcaaaa ggnttttgac tntttancon tntatatttt taacoggttt
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gactgccaaa ctttgtaggt taaggagtat ttataatgat ctttgaggaa actgcaactg
                                                                       240
acaattgagg gaaaaaaatg ttagttcatg actgcaaaat acatgacaga atcacaaaaa
                                                                       300
ctattttaca agtttaaaaa acaaacctga tgctgatgca tggcaggcga accccaaagt
                                                                        360
                                                                        420
ggggettage etgeaagggt tettggette acceaggaaa ggatteaagg geaageeagt
                                                                        480
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cgcagaaatt gttaggaaaa gggtggtaac ttttgggtca tcaggtcatt gccgcttaaa
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tgtgtcttac agaaagetge ttnegetetg neettggtta netagecete gamentttgg
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gnttcancct tgcattttaa aagggcccaa tttgnccctt taaanggagt cgantaccaa
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antt
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      <221> misc_feature
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                                                                        120
                                                                        180
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aaggacagag cggaagcagc tttctgtaag acacacccag cagcgtgcct tgtcagttta
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                                                                        300
ccattgccat ggcaaaactc aggcattacc accactttca gcggcaatga cctgatgacc
caaaagttac caccetttte ctaacaattt etgegeaaac cacceetgaa tetgeatgta
                                                                        360
                                                                        420
attaaaagta ggtatacata tgactgcaaa actgggctca gctgctactc tcggcaccct
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gcctatgggg caaccetggg agcagtcact gagetgtgac eccaeaggag etgtaacagt
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                                                                           660
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gcagtcatga actaacattt ttttccctca attgcaagtt gcagtttcct tcaaagatca
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ttataaatac teentaacce tacaaagttt ggcaagtcac agnetactet ttgaggaaca
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agectgactt accatcaaga agetteettn anggggntta entteeatgg ttteccatgg
                                                                           840
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tnnnttaang gatccnaact tggganccaa annnttgggg naaannatgg gnnnnnaact
                                                                           960
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qaan
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tecteattae etetttaea ateaceteae tecageatgg tgtetgttae etetteecae
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gggaatgccc tcaatacggt ggatgctgnt aactttcttc cttcccctca ggcaatggcg
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ccccttcttt ctagganccc agttaaaaaa aaaaaaccaa aactagcccc aatgnctgtg
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atgeceatta ateaettace cagggetgan ceetneatta aanttttgat gggatetett
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tggnttccca attggccgtt naacccaagn ctgntggatt cccaantinc cccattgntt
                                                                           900
taatgcgggt cccttaanca ncccttggnt actggacctg gccngggngg gcccttttaa
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aanq
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                                                                           180
                                                                           240
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aaagaagggg acagaagagg ttccaaaata cagttgggaa atgtggacat tatggttcat
                                                                           360
tgtaagtcac cgccattgcc tgaggggaag gaagaaagtt aacagcatcc accgtattga
gggcattccc acatgctgtg ttagggacag ttagatactg ctaggtgagt aacgggagat
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aattgttcat catcgtgagg gaaaaatcaa taaggaggat cacaagacat cctgctagag
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600
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gtaatgaaga gatcttccag aaactgtttc cggaattgat gantgtgacc cnccttaaga
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ntaaggtaaa acaggaaaaa tggnccaggc gtnatnggcc cttttcagnc cttaaccttt
                                                                          840
attggtgggg tggtttcata taagttantt aatctggtnc cctgaaagtt tccttccttt
                                                                          900
anggaaaccc gantectaan cetttnaagt cennggatga gaccettggn cegggaaccc
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atticecate ticeategia taitgaaatt teeteateea tgicatetti etitgetitt
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gataagaccc atccagccaa cettecacta teaaaagttt etgeaaaata taetteteet
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totottgogg cotgitting gragitgadag otdagatgic caagingting coacitiggic
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coogcatete tteagaceag teoccecege atacetacee aggegaceae tegaaagage
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gaattetgea gatateeate acaetggegg eegetegage atgeatetag agggeecaat
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                                                                          660
gaaaaccetg gegttaccca acttaatege ettgeageac atececettt egecagetgg
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ggggaccggt acactttgnc aagggcctaa cgnccggttc ntttggtttc ttncctttcn
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ttnttngcac gttngnccgg nttttcccgt naagctttaa aatngggggc ttcccctttt
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tggtctgaag agacgcgggg accaagtggc aacgacttgg acatctgagc tgtcactgcc
                                                                          180
gaaaacaggc cgcaagagag ataatcaata tgcatttcca agccttttgg ttatgtttgg gtcttctgtt catctcaatt aatgcagaat ttatggatga tgatgttgag acggaagact
                                                                          240
                                                                          300
ttgaagaaaa ttcagaagaa attgatgtta atgaaagtga actttcctca gagattaaat
                                                                          360
                                                                          420
ataagacacc tcaacctata ggagaagtat attttgcaga aacttttgat agtggaaggt
tggctggatg ggtcttatca aaagcaaaga aagatgacat ggatgaggaa atttcaatat
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acgatggaag atgggaaatt gaagagttga aagaaaacca ggtacctcgg ccgcgaccac
                                                                          540
gctaagggcg aattccaqca cactggcggc cgttactagt ggatccgagc tcggtaccaa
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gettggegta ateatggtea tagetgttte etgtgtgaaa ttgttateeg etcacaatte
                                                                          660
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gccagctgca ttaatgaatc ggccaacgcc ccgggggaaa aagcggnttg cgtattgggc
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getetteeet ttettgntta ettgaetege ttgggetteg tegttegget geggenaaeg
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gnatcagett actcaaange gggaaataeg gtanteecca gaateenggg gattaccccn
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ggaaaagaac ctgtgagccn aanggccccc aaanggcccn gaaccntaaa aaanggcccg
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                                                                      1024
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      <221> misc_feature
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accaattttg ctgcaagaat gggaactgct tttaaatctg taaatagctc ttaacatttg
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ctttttctgt gaaaaatatt ttctgtttgc aaaatcttcc ctgagttctg aacccagcac
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cateagtace teggeegega ceaegetaag ggegaattet geagatatee ateaeactgg
                                                                       720
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tcactggccc gcgnttttac aacgtcgtga ctgggaaaac ccctgcgtta cccaacttaa
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acgecettge ageacatece cettttgnee aantgegtaa ttaccaaaaa ggeeegnace
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gaacggcent tteccaaagg tggeneaace etgaaatgge aaatgggeee ecceettgaa
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ceggngcent taanceecce neegggnntt tnggggteec cecaeggnga neegttaaac
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ttgc
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ctgtcttaag ccttattata aaataaaaaa gcaataattt gataaaatgc taaaatagaa
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aaccctacac aagtgttgac agccatagta agaaaagagt gcatacaaca aatgttaaga
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gctatttaca gatttaaaag cagttcccat tcttgcagca aaattggtga cataaaacca
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tttgtacctg ccccgggcgg ccgctcgaaa gggcgaattc cagcacactg gccgnccgtt
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acttagtgga tecgageteg gtecaageet tgegtaaate atggneeata ntggtteetg
                                                                       780
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nggtgaaatt ggtateeegg teacaattte neceeancat acgaaneegg aageentnaa
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                                                                       900
ctggcccgtt ttccaatcng ggaaanctgt cgngcccact ggntttaang aatcggccan
                                                                       960
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                                                                      1024
atcn
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      <211> 1024
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      \langle 223 \rangle n = A,T,C or G
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                                                                       120
                                                                       180
aaaaatgttc atttttgtcc cagtaaattg agactgcttg tactttttt ttttttttt
ttttttttt ttattaaaat actgagtttt atttcacatg tatatttttg tctccccacc
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atttccatgt ctgaccaccg ctactactat gtcctatcat aacattccat acatacttaa
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aaccaagcaa agggtggagt tccatcttta aaaactaaac ggcattttgg acaacacatt
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cttggcaata naacctggac aacatttatc aaacacggta gggaaagttc tcactctgca
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ttataaaaag gacagccaga tatcaactgt tacagaaatg aaataagacg gaaaattttt
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taacaaattg tttaaactat tttcttaaag agacttcctc cattgccaga natcttgaat
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ttttganctt ggggttgaaa ganggntttg agtcttttca ttctgaattg acttttgggc
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                                                                       960
tnatntttat tnagengeaa ggtttacttt ttttctgggg gaanctttgt tanccccttt
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                                                                       1024
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                                                                        120
                                                                        180
tcccttgggg gctttgaaat aacaccacca gtggtcttaa ggttgaagtg tggttcaggg
                                                                        240.
ccagtgcata ttagtggaca gcacttagta gctgtggagg aagatgcaga gtcagaagat
                                                                        300
gaagaggagg aggatgtgaa actcttaagt atatctggaa agcggtctgc ccctggaggt
ggtagcaagg ttccacagaa aaaagtaaaa cttgctgctg atgaagatga tgacgatgat
                                                                        360
                                                                        420
gatgaagagg atgatgatga agatgatgat gatgatgatt ttgatgatga ggaagctgaa
                                                                        480
gaaaaagcgc cagtgaagaa atctatacga gatactccag ccaaaaatgc acaaaagtca
aatcagaatg gaaaagactc aaaaccatca tcaacaccaa gatcaaaagg acaagaatcc
                                                                        540
ttcaagaaac aggaaaaaac tcctaaaaca ccaaaaggac ctagttctgt agaagacatt
                                                                        600
aaagcaaaaa tgcaagcaag tatagaaaaa ggtggttctc ttcccaaagt ggaagccaaa
                                                                        660
                                                                        720
ttcatcaatt atgtgaagaa ttgcttccgg atgactgacc aagaggctat tcaagatctc
                                                                        780
tggcaatggg agaagtetet ttaagaaaat agtttaaacc atttggtaaa aaatttteeg
                                                                        840
tottatttca tttctgtacc agttgatatc ctgctgtcct ttttataatg cnaagtggag
aacttteect accegittigg ataaatgttg gncaggttet attgeecaag aatgtgtgne
                                                                        900
```

```
ccaaaatgcc cgntagtttt tnaagatgga acttcacccn tttgcttggn tttaagtatg
                                                                     960
                                                                     1020
nntngaangt ntgatnggac cntatnntna ccgnggncaa ccttggnaaa tggtggggag
                                                                     1024
      <210> 65
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 65
                                                                       60
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gtgtgctgga attcgccctt agcgtggtcg cggccgaggt actctgctga tctctgcctt
                                                                      120
                                                                      180
gtaatggaaa tgtttcattc attaatgtta ttgatatggt tgcactatgt ccgtaatttt
getttttgtg tatetgteta atgtttttta tteteetttt tetettttae tattttettt
                                                                      240
                                                                      300
taaattaagt aaatagttcc taacgtagta ttttattttc ttaaaataaa tcaaactcac
ttataaaata tatttoatat tactttotta togattgotg tatgoottac aacatacato
                                                                      360
                                                                      420
ttatcagact caacatttat agtaacataa atccattgag acatagtaac attaattctt
tataggtota tttattotac ttattoaata attgttatat atatattaca totacatgtt
                                                                      480
acaaacacaa aaatatattg ttataatgct tgtttttatg taattttatg tcttttaaag
                                                                      540
                                                                      600
ttacaattto tggttotott catttttto etgttgatto aagttgtato ttagtgtoat
                                                                      660
                                                                      720
ttcatttctt taatacaact ttgctccaat tatttctttt gtgctcttaa tgtcaaatat
                                                                      780
attaagtttt gnttgcatta taggctcaac actattatac atatattggt ttatgcattt
attttgaatt aagagaaaat aaaaatatgc aatttaatgg cttatatact attcatataa
                                                                      840
ttaccctcta tgagggtnca ttatatatgn attccaaccn tatttataaa ntccaaanta
                                                                      900
                                                                      960
cctggtangt gccnaaaggc tcctaagcct attagcccgg aaaaaaaatc cctgggtant
tccttggnaa gggaggtttg attgccacca acctntttta natngggttg ggttttaata
                                                                     1020
                                                                     1024
aacc
      <210> 66
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 66
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                                                                       60
                                                                      120
atatetgeag aattegeeet ttegagegge egeeegggea ggtaeteeag eetgggtaac
                                                                      180
agagggagac totatgccaa acaaacaaac aaacaaacaa acaaacaatg gagaccagaa
agcaatgaga tgaaatgttc aaagtgctga aagaaaaaa aaggtcaacc aaaagtctta
                                                                      240
                                                                      300
tatccagaat atttttcaaa gtataaaagc aaaatacatt ctcagataat aaaaacaaaa
caaactaaaa gagtttgttg ctatcatacc taccttacaa gaaatactca gtgatttttt
                                                                      360
                                                                      420
tcaggctaat aggctaggag catttggcac ctaacagtaa tttgaattta tatatatgtt
tgtatacata tatatggaac actcatagag gtaattatat gaatagttat ataagacatt
                                                                      480
aaattgcata tttttatttt ctcttaattc aaaataaatg cataaaacaa tatatgtata
                                                                      540
atagtgttga gcctataatg caaacaaaac taatatattt gacattaaga gcacaaaaga
                                                                      600
                                                                       660
aataattgga gcaaagttgt attaaagaaa tgaaatgaca ctaagataca acttgaatca
acaggaaaaa aatgaagaga accagaaatt gtaaagaata atgntaacat aacaatgcta
                                                                      720
                                                                      780
atagttactt tgctttcctt tcttctctca tgntctttaa aagacataaa attacataaa
aaccaagcat tataacaata taattttggg tittggaacat ggiagatgta tatatatata
                                                                      840
                                                                       900
ccattattgg ataagtagaa taaataggac tattaaggaa ataatggtac tatggctcaa
tgggantaag gtacctataa nggtgagcct gganaggaag natgttgnaa ggcttccggc
                                                                      960
aatcggttta gaaagtantt tggaaatata ttttnatnaa gngggttgga ttaatttagg
                                                                      1020
```

1024

```
aaaa
      <210> 67
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
gagnnnnnnt taactccage ttggtaccga geteggatee etagtaacgg eegecagtgt
                                                                          60
gctggaattc gccctttcga gcggccgccc gggcaggtac ttttttttt ttttttttt
                                                                         120
ttttggaaaa tgagattttt gactttaaca aaacaaatac agattgaatt taccaaatat
                                                                         180
tgataattca tgtanaacgg gtgccacaga ttttaaagta tcaaaaccaa gagggcatca
                                                                         240
                                                                         300
caaaataaac tttggtgaaa aatatcttca tcaaagaaga aaatatgaga agagtagtcc
ttatgcagtg aggagaata tatttggtaa agtaaatatg ggtagtagat actgaatcta
                                                                         360
tagatagcat atattccaaa tgttttttag ggaatatcaa atcagatgat gcttanatgt
                                                                         420
tatagtaata tcacttatct catttggaat gaaatttaat gttttttaat aaatagcaaa
                                                                         480
ttttcatttt ttcactacct ttataaaaca aattaaatat ttagagtata actgatcata
                                                                         540
actaacatca ccttgcattt actaataaat actctaaata catttggttt attattggaa
                                                                         600
tttatateet tataatttta eetgetagaa attagtgaee ttgtggeatt atgtttaaag
                                                                         660
tttacatttt cccagtgatg tgaacagtat ttatacntaa aatggatatc tgnccaatga
                                                                         720
atagtaacca tgtttggtgg tttaaaaacc gnacatggtt tagtttgaca ttggcatgtc
                                                                         780
tottoagaaa ttnaaaaggt atontttaag ggatggottt tnggaaatca ttaataaact
                                                                         840
accntctggg aaaangaatn ccaatttcaa gaagctacct aantagaact cagacccccn
                                                                         900
gggcagggtn ttggnanaaa angctttcaa ttncaaattn nttntccgnn gnaaaccgaa
                                                                         960
ngggaccett annngnntgg aceneettte engnaaactg gttttaaaat aaaaatttee
                                                                        1020
gnnc
                                                                        1024
      <210> 68
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 68
gnngnnnnnn ntnnnttega attgggeeet etagatgeat getegagegg eegeeagtgt
gatggatate tgeagaatte geeettageg tggtegegge egaggtacet agtagateta
                                                                         120
ctgagattaa acgggacctg tttggagcag aaccttttga cccatttaac tgtggagcag cagatttccc tccagatatt caatcaaaat tagatgagat acaggagggg ttcaaaatgg
                                                                         180
                                                                         240
gactaactct tqaaqqcaca qtattttqtc tcqacccqtt aqacaqtaqq tqctqacatc
                                                                         300
                                                                         360
aagaacaaga aatcctgatt catgttaaat gtgtttgtat acacatgtca tttattatta
ttactttaag ataggtatta ttcatgtgtc aatgttttta aatattttaa tattttgaaa
                                                                         420
attiticting transition teacetticae tattigatetig taattititat titaaaaaaca
                                                                         480
gcttactgta aagtagatca tacttttatg ttcctttctg tttctactgt agatgaattt
                                                                         540
gtaattgaaa gacatattat acaaatacct gccttgtgtc tgagttctat ttagttagca
                                                                         600
tettgaaatt tgtatteatt tteeagatgg etagtttatt aatgatttee caaaageeat
                                                                         660
accttaaaga taacttttta aattctgaag agacatgcca atggcaaact aaacatggtc
                                                                         720
tggttttaaa ccaaccaaca tgttactatt cattgggaca gatatcattt tatggataaa
                                                                         780
tetggtcaca tactggggaa atggaaactt taaacataat ggccccangg cactaattte
                                                                         840
ttaccggtaa aaatnttang ggtttaaant nccatattna acccnatggt tttaaaggat
                                                                         900
ttattntaaa ngcnngggga ngtanntttg acagtntncn ctaaaanttt aaatgggttn
                                                                         960
ttaaaggtnt gaaaaaanga aaaattgctt ttttttnaaa acctttaant cntttccnag
                                                                        1020
                                                                        1024
gggn
```

```
<210> 69
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 69
gggnnnnnn tnncttanac gccnngcttg gtaccgagct cggatcccta gtaacggccg
                                                                          60
                                                                         120
ccagtgtgct ggaattcgcc ctttcgagcg gccgcccggg caggtactcc ggtcggtgtc
agcaggacgt ggcattgaac attgcaatgt ggagcccaaa ccacagaaaa tggggtgaaa
                                                                         180
ttggccaact ttctattaac ttatgttggc aattttgcca ccaacagtaa gctggccctt
                                                                         240
                                                                         300
ctaataaaag aaaattgaaa ggtttctcac taaacggaat taagtagtgg agtcaagaga
ctcccaggcc tcagcgtacc tcggccgcga ccacgctaag ggcgaattct gcagatatcc
                                                                         360
atcacactgg cggccgctcg agcatgcatc tagagggccc aattcgccct atagtgagtc
                                                                         420
gtattacaat teactggccg tegttttaca acgtegtgae tgggaaaace ctggegttac
                                                                         480
ccaacttaat cgccttgcag cacatccccc tttcgccagc tggcgtaata gcgaagaggc
                                                                         540
cogcacogat ogcocttocc aacagttgog cagootgaat ggogaatgga ogcgootgt
                                                                         600
                                                                         660
ageggegeat taagegegge gggtgtggtg gttacgegea gengtgaceg ctacaettge
                                                                         720
cagegoetta egeoegteet thegetitet tecetteett tetegecaeg thegeogget
ttccccgtca agctctaaat cgggggctcc cttttagggt tccgaattan tgctttacgg
                                                                         780
                                                                         840
accttgaccc caaaaaactt gantanggtg atgggtcacg taatgggccc atnggccttg
anaagacggt ttttcgccct ttgacngttg gagtccacgt tctttaaaag gggactcttg
                                                                         900
                                                                         960
gttccaaact ggaacaaccn nttaanectt atttnggget aatcetttgg aattaatnag
ggattttgec caatttggge cettnggtta aaaaaagggg ettgntttaa ccaaaaattt
                                                                        1020
                                                                        1024
aacc
      <210> 70
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 70
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                                                                          60
atatetgeag aattegeeet tagegtggte geggeegagg taegetgagg eetgggagte
                                                                         120
tettgaetee actaettaat teegtttagt gagaaacett teaattttet tttattagaa
                                                                         180
gggccagctt actgttggtg gcaaaattgc caacataagt taatagaaag ttggccaatt
                                                                         240
teaceceatt ttetgtggtt tgggetecae attgeaatgt teaatgeeae gtgetgetga
                                                                         300
                                                                         360
cacegacegg agtacetgee egggeggeeg etegaaaggg egaatteeag cacaetggeg
geogttaeta giggateega geleggiaee aageliggeg taateatggi catagelgit
                                                                         420
teetgtgtga aattgttate egeteacaat teeacacaac atacgageeg gaagcataaa
                                                                         480
gtgtaaagcc tggggtgcct aatgagtgag ctaactcaca ttaattgcgt tgcgctcact
                                                                         540
gcccgctttc cagtcgggaa acctgtcgtg ccagctgcat taatgaatcg gccaacgcgc ggggagaggc ggtttgcgta ttgggcgctc ttccgcttcc tcgctcactg actcgctgcg
                                                                         600
                                                                         660
ctcggtcgtt cggctgcggc gagcggtatc aagctcactc aaaggcggta atacngttat
                                                                         720
ccacagaatc aaggggatac gcaggaaaga acatgtgaac caaaaggcca caaaaggcca
                                                                         780
ggaacccgta aaaaaggccg cgttggctgg cgttttttcc atangcttcc ggcccccttg
                                                                         840
acgagcatta ccaaaaatcg acgctcaagt tcaaaggtgg cgaaancccg accggactnt
                                                                         900
taagaatccc agcgtttncc cctggaactt ccttgggcgc ttttctggtt ccaaccttgc
                                                                         960
cgttaccgga tacctggncc gcntttttcc ctttngggaa accngggcnt tntcaaaant
                                                                        1020
taac
                                                                        1024
      <210> 71
```

<211> 71

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A,T,C or G
      <400> 71
gagnnnnnnt taactcccgc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                            60
gctggaattc gcccttagcg tggtcgcggc cgaggtactt ttttttttc ttttttaca
                                                                           120
totgatttta atgottogtt aacttoaaaa ggaactggta gagttoagaa ggtgagetgt
                                                                           180
tgtttttcta aacctcttcc caggaagggg acattgacac ttgaattttt gtcacctttt
                                                                           240
tcctcattag aaggaaagta gaaagcctta ctgtaggatt tttaaaaaaaa aatccatctc
                                                                           300
                                                                           360
accccatatt ggtcttaaat aagtatagac taattaacct aagctacctt taacaacgta
gaatttagat gggttcatat atgtgagaaa aacctgaata taggacaggg gtcctacttt
                                                                           420
tttccccacc tctgtcgccc aggctagagt atagtggtgt gatcttggcc cactgcaacc
                                                                           480
totgottoot aggttoaagt gattotootg cotcagootc coaagtagot gggattgtaa
                                                                           540
gagtatgcca ccacgcccag ctactttttg tatttttagt agagacaggg tttcatcatg
                                                                           600
ttggccagga tggtctctta actcctgccc tcaagtgatc caccagagag gagatcctcg
                                                                           660
gcctccccaa gtgctgggat tataggcatg agccaccgtg cccagcctac tttctaatta
                                                                           720
attaaaaaaa aaaaaaaac ttcccaaatg agctgataaa aaactgacgt gaggctgctt
                                                                           780
tgccttcaat aatacctagt tttcagctgt tccaactcgt ttccaaattg gaaattanct
                                                                           840
ggaacnccac tacagtaatc ttcanggaan gggaaaatta ggccttaaaa gaatccccag
                                                                           900
aaagttcanc atnggnancc tgnccnggcc ggnccgttca aaangggcna aatttgcaga
                                                                           960
aattocatna cacttggcgg gccgttcgan catggctttt aangggccca attgnccctt
                                                                          1020
                                                                          1024
      <210> 72
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 72
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tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta ccatgctgac
                                                                           120
ttottggtat ottttaaggo otaattttoo ottoottgag attactgtag tgtgttocag
                                                                           180
ctaatttcta tttggaaacg agttggaaca gctgaaaact aggtattatt gaaggcaaag cagcctcacg tcagttttt atcagctcat ttgggaagtt tttttttt ttttaattaa
                                                                           240
                                                                           300
ttagaaagta ggctgggcac ggtggctcat gcctataatc ccagcacttg gggaggccga
                                                                           360
ggatctcctc tctggtggat cacttgaggg caggagttaa gagaccatcc tggccaacat
                                                                           420
gatgaaaccc tgtctctact aaaaatacaa aaagtagctg ggcgtggtgg catactctta caatcccagc tacttgggag gctgaggcag gagaatcact tgaacctagg aagcagaggt
                                                                           480
                                                                           540
tgcagtgggc caagatcaca ccactatact ctagcctggg cgacagaggt ggggaaaaaa
                                                                           600
gtaggacccc tgtcctatat tcaggttttt ctcacatata tgaacccatc taaattctac
                                                                           660
gttgttaaag gtagettagg ttaattaagt etataettat ttaagaceaa tatggggtga
                                                                           720
naatggattt ttttttaaaa atcctacagt aaggctttct actttccttc taatgaggaa
                                                                           780
aaaggtgacc aaaantcaag tggcaatggc ccctttctgg ggaaaagttt anaaaaacca
                                                                           840
eeggttanet thtegaactt ttacceagtt ceettttgaa gttacegaag cetttaaaan
                                                                           900
cagatgttaa aaaaggaaan nnnaaaaagt ncctttggcc gggaacccnc ttaagggcca
                                                                           960
aattccacac acttgggggg ccgntnccnt anggatccca ncttgggncc aaannttggg
                                                                          1020
                                                                          1024
      <210> 73
      <211> 1024
      <212> DNA
```

<213> Homo Sapien

<220>

```
<221> misc_feature
     <222> (1)...(1024)
     \langle 223 \rangle n = A,T,C or G
     <400> 73
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                                                                    60
cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactgtgtt atggcacaga
                                                                   120
                                                                   180
caatgettge ttageggtge ettgttacat aggtggatge agagtgegea caegggatga
tggcaataaa gacctcactc agtcgttgga atgaaggaac taggtaactg cttcaacaag
                                                                   240
                                                                   300
gacggtetea getetacett ateteteaac agagtgcaaa cactgagtgt gageteagat
gtcatcttgt tcctctttaa aattcaccaa attcttttgc acatttttct gttatagaga
                                                                   360
                                                                   420
cacggatate ttettettea tagteateaa agttgetggt atetecagag cetetaaact
ttggtatgaa tggagettea acetteetet ggtaaatage aateeaatet gtegtggeaa
                                                                   480
                                                                   540
accacttgtg agtttttata tcactgacac cattctttag atttccaaat ctcttgatca
600
atcggacctt tccagaaaca atcttttcat aaatctgaat tggttggtct gcaaagaatg
                                                                   660
ggggatagec agetgecatt teatagatta geactectaa tgeccaceaa tecaetgeet
                                                                    720
tattgnagec ettgetgaga attatttetg gagecaaata eetetggagt tecacataat
                                                                   780
ggccaagttc tgcctttaac tcttttggca aaccccaaaa gtctgtgacc cgggatatag
                                                                    840
                                                                    900
ccctgatggn ccaatttaag aagaattttc angggtttaa aaactctggt aaatgaaggc
                                                                   960
taanggaaat ggaggnacct ttttttttt nnnnnnnttt tttttttnaa acnttgtaaa
aggecaaaat titggetana antiantite aaagnitnaa acentiteca aattittitt
                                                                   1020
                                                                   1024
taat
      <210> 74
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n = A, T, C or G
      <400> 74
ggagnnnnnn nttgagttee ggeeetetag atgeatgete gageggeege eagtgtgatg
                                                                     60
                                                                    120
gatatetgea gaattegeee tttegagegg cegeeeggge aggtacagte aactgeattt
ttctctggtg accaagette cactgacaag gaagaggatt atattcgtta tgcccatggt
                                                                    180
ctgatatctg actacatccc taaagaatta agtgatgact tatctaaata cttaaagcct
                                                                    240
                                                                    300
ccagaacctt cagcctcatt gccaaatcct ccatcaaaga aaataaagtt atcagatgag
cctgtagaag caaaagaaga ttacactaag tttaatacta aagatttgaa gactgaaaag
                                                                    360
                                                                    420
aaaaatagca aaatgactgc agctcagaag gctttggcta aagttgacaa gagtgggatg
aaaagtattg ataccttttt tggggtaaaa aataaaaaaa aaattggaaa ggtttgaaac
                                                                    480
                                                                    540
aaaaaaaaaa aagtacctcc attcactaga cctcatctac agagatctaa aacctgaaaaa
                                                                    600
                                                                    660-
totottaatt gaccatcaag gotatatoca ggtcacagac tttgggtttg ccaaaagagt
                                                                    720
taaaggcaga acttggacat tatgtggaac tccagagtat ttggctccag aaataattct
cagcaagggc tacaataagg cagtgggatt ggtgggcatt aggagtgcta atctatgaaa
                                                                    780
tggcactggc tatccccatt cnttgcagac ccaccattc agaatttatt gaaaaagatg
                                                                    840
                                                                    900
gttcttggaa ngnccgaatt cccattcccc ttcagntcna actcaagggc ccttttacgg
aancetggtt geangggga ttgateeagg anaatttgga aatettaaag aaaaggggne
                                                                    960
cggggtttta aaaacctonc aagngggttt gcccccancg naatgggatt ggtttttccc
                                                                   1020
                                                                   1024
ccna
      <210> 75
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
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PCT/US99/13181

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\langle 223 \rangle n = A,T,C or G
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ataggagcag cotgoatcat ticaacgige citetittaa cactgigati getitteacc
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                                                                         300
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ctcgggccgc ataggcccaa tcatttcagg aggctgnacc tgcccgggcg gccgntcgaa
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ccaattcgcc ctatagtgag tcgtattaca attcactggc cgtcgtttta caacgtcgtg
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actgggaaaa ccctggcgtt acccaactta atcgccttgc agcacatccc cctttcgcca
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gctggcgtaa taacgaaaag ccccgcaccg atcgcccttt ccaacagttg cgcancctga
                                                                         780
aagggenaaa tggacneece tggaacggee attaacceec genggnnnnn gggtacceen
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caangngace ggtacacttg gcaangcoot aacgeeeggt contitigntt tictiteett
                                                                         900
tenttttnge aegttnnnee gggtttteee ggnaagetnt naaatngggg ggteeeentt
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ttgggcctat gcggcccgag cagttcagtg atgaagegga accagcaaca cctgaagaag
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gggaaccagc aactcaacgt caggatcctg cagctgctca ggagggagag gatgagggag
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                                                                         300
catetgcagg tcaagggccg aagectgaag ctcatagcca ggaacagggt cacccacaga
ctgggtgtga gtgtgaagat ggtcctgatg ggcaggagat ggacccgcca aatccagagg aggtgaaaac gcctgaagaa ggtgaaaagc aatcacagtg ttaaaagaag gcacgttgaa
                                                                         360
                                                                         420
atgatgcagg ctgctcctat gttggaaatt tgttcattaa aattctccca ataaagcttt
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acageettet gtaaaaaaaa aaaaaaaaaa aaaaaagtae eteggeegeg accaegetaa
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gggcgaattc cagcacactq qcqqccgtta ctagtggatc cqagctcggt accaagcttg
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aacatacgag cccggaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact
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cacattaatt gcgttgccgc tcactgcccg ctttncagtc gggaaacctg tcgtgccagc
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cttacttcaa angegggaaa teeggtttte eneggaaate aggggaatac eeenggaaaa
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                                                                          120
                                                                          180
gcttctttct ccaggaaaga tcaaaacgat gcactgcaag gttaacatcc aatttttaat
acattqtqat tqqtccaqat agctqcctta tccaactqcc tcctttqqac cacttcatca
                                                                          240
                                                                          300
tgggacaget tgatgcaate tacttgacaa gaccetggaa ceceacacee etcatggaac
cagtgtccac ctcccagtca cagtgtgacc ccagggaact cttgcctgct tgctttaaac
                                                                          360
ccaccactta aaagtctcca cagaaaacct gtttgaatag tacctcggcc gcgaccacgc
                                                                          420
taagggcgaa ttctgcagat atccatcaca ctggcggccg ctcgagcatg catctagagg
                                                                          480
geccaatteg cectatagtg agtegtatta caatteactg geegtegttt tacaacgteg
                                                                          540
tgactgggaa aaccetggeg ttacceaact taategeett geageacate eccetttege
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cagetggegt aataagegaa gaggeeegea eegategeee tteecaacag ttgegeagee
                                                                          660
                                                                          720
tgaatgggcg aaatggacgc gccctgtagc ggcgcattaa gcgcgggcgg gtggtggtgg
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                                                                          780
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cetttagggt teegaattan tgetttaegg gaeettgane eecaaaaact tggnttaggg
                                                                          900
                                                                          960
gtgagggtca cgtatgggcc attggccctg aaaanacggt ttttcgcccc tttgaccctt
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gttttctgtg gagactttta agtggtgggt ttaaagcaag caggcaagag ttccctgggg
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teacactgtg actgggaggt ggacactggt tecatgaggg gtgtgggggtt ccagggtett
                                                                          240
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                                                                          360
cgttttgatc tttcctggag aaagaagctg gtgcaaatga caaaaacagt acctgcccgg
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geggeegete gaaagggega attecageae actggeggee gttactagtg gateegaget
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eggtaceaag ettggegtaa teatggteat agetgtttee tgtgtgaaat tgttateege
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tcacaattcc acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaat
                                                                          600
gagtgageta acteacatta attgegttge geteactgee egettteeag tegggaaace
                                                                          660
                                                                          720
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ggccgctctt negcttnetn gcttacttga ctcgcttgcg cttcgnccgt tcggcttgcg
                                                                          780
genaageggt atteagetta etteaaagge ggtaaataen ggtatteece agaaateagg
                                                                          840
gggatnaccc cnggaaaaga acatgtgaan ccaaaaaggcc accaaaaagg ncnnggaacc
                                                                          900
                                                                          960
gtnaaaaang gccncnttnn nnetgngttt ttccattaag gttcccgccc ccttgacagc
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taaq
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                                                                        120
                                                                        180
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tgaaaatgga aggacagcca gattteteet ttgetetetg eteattetet etgaagteta
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ggttacccat tttggggacc cattataggc aataaacaca gttcccaaag catttggaca
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gtttcttgtt gtgttttaga atggttttcc tttttcttag ccttttcctg caaaaggctc
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actcagtccc ttgcttgctc agtggactgg gctccccagg gcctaggctg ccttcttttc
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catgioccae ceatgageee tecaetggae ageteagtaa geetggeeet teattetgeg
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ttttccqtct ccccaaagct ttatctgtct tgacttttta aaaaagtttg ggggcagatt
                                                                        180
ctgaattggc taaaagacat gcatttttaa aactagcaac tcttatttct ttcctttaaa
                                                                        240
                                                                        300
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ctgcatttat aggaccttct ggtggttctg ctgttacgtt tgaagtctga caatccttga
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gaatetttge atgeagagga ggtaagaggt attggatttt cacagaggaa gaacacageg
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cagaatgaag ggccaggctt actgagctgt ccagtggagg gctcatgggt gggacatgga
                                                                        480
aaagaaggca gcctaggccc tggggagccc agtccactga gcaagcaagg gactgagtga
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                                                                        780
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geggeegtta ettaatggat eenaactegg taccaanent tgegtaaate atgggeennt
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                                                                        960
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180
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aaaaaaaaa atttaatttt taaaaattag tggtatggca ataagacact tcagaggcta
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                                                                       300
ttaacttgtg ttgtcatctc gttgccggag taagtagaca taagacagag tttaagaagt
                                                                       360
aaaaatatag aaaaattttg atggtcacaa tgagataaat attagaatat tactattcca
                                                                       420
atgattaaat gaggatettg aaataaatte tgaagtette caatttttae atttattgga
                                                                       480
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atgttaaacc ttccaaaaat gaaatgttag ctttctttct tttacttttt attaaattta
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atagaaaata tgacctgagt agttaaaaag tattttgcat tatttqcaqt aaqatgtctc
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tagcactgct caaagggcaa attttaaaac ttcagtctgg gtgaaagatt ttgctagttt
                                                                       720
tacagaaaga tttgctatct taaactcaaa gctggttttt cttttctcaa tgtaagtgac
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tgggatgctg gcttaagaat tctttccaag gncatgtttg tgaaataaac cttacatgag
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agettteetg neatetaene etatatgtgg cetngaggtt gaccaaattt antttagntt
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ctaagtgtaa netateecaa atgggetate caaatttgaa tggngeeett catactgnga
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aatt
                                                                       1024
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caaatctttc acccagactg aagttttaaa atttgccctt tgagcagtgc tagagacatc
                                                                       420
ttactgcaaa taatgcaaaa tactttttaa ctactcaggt catattttct attaaattta
                                                                       480
ataaaaagta aaagaaagaa agctaacatt tcatttttgg aaggtttaac atttatgcac
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aaaataagag caagagactt aaataaaaaa gttgacagaa ctcagggacc cctccaataa
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atgtaaaaat tggaagactt cagaatttat ttcaagatcc tcatttaatc attggaatag
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taatattota atatttatot cattgtgaco atcaaaattt ttotatattt ttacttotta
                                                                       720
aactotynot tatynotact tactooyyca acyayatyac caccacaayt taacatttto
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cagaanggat gtctctgnct ttaaactaga aagatgggta tttcagaggg taagaatacc
                                                                       840
ctotgaagtg gtottaatgg catacocota attittaaaa antaaaatti tiittittit
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tgggangggg aaggetggat tteetttene ttaacetnga gggtatatee cetgnttggg
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qqqc
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ttctcgttct gagggacagg cttgagatcg gctgaagaga gcgggcccag gctctgtgag
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gaggcaagac acaqtgggtc gcaggatctg acaagagtcc aggttctcag gggacaggga
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gagcaagagg tcaagagctg tgggacacca cagagcagca ctgaaggaga agacctgcct
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gtgggtcccc atcgcccaag tcctgcccac actcccacct gctaccctga tcagagtcat
                                                                       360
                                                                       420
catgootoga gotocaaago gtoagogotg catgootgaa gaagatotto aatoocaaag
                                                                       480
tgagacacag ggcctcgagg gtgcacaggc tcccctggct gtggaggagg atgcttcatc
atcoacttcc accagetect ettttecate etettttece tecteetett tteetectee
                                                                       540
                                                                       600
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ccaaatcete eccagagtge teagatagee tgeteeteee eteggtegtt getteeette
                                                                       660
                                                                       720
cattagatca atctgatgag ggctccagca gccaaaagga agagaagtcc cagcacccta
caggteetge cagacagtga gtetttacee agaagtgaga tgatgaaaag gngaetggat
                                                                       780
                                                                       840
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tncttggaaa agtgncntna aaaaattatg aagaacnntt tcccttggng gttaangaaa
                                                                       900
cccctccaan genngenngn nggnetttgg genttgangn nnaanggnaa gggateceen
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cnnn
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gttccagcat ctttggtagc ctgacgctga gagtcattaa agtaagctgg cactgtgacc
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accttgggcc tgccagcatc attcaccacc ataaagggcc aatgtttcat atcagactgg
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acaacagcat catcaaatct gcgtccaatc agacgtttgg catcaaaaac tgtgtcggtg
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480
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                                                                       180
togcotgoag ctottgggtt tttgtggctt cottogttat tggagccagg cotacatoco
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caacattcca anecggaage ettnagtgta aageeetggg tgeeettaag agtgagetta
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aactoogcat tittooctoto occagoocot gocaactgoo attotactit cigittotot
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                                                                       360
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atgtattact tottttttaa ggttgaacaa tattccactg tgtgtgtgtg tgtgcacgtg
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600
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gtattcatta ttgcaagaac agcatcaaac catgaggett caneeegtgg eccaaacace
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                                                                        960
aaatttttaa agganteeca accettttaa ngaactaaag gttteeegna nnnngaaaag
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                                                                         240
aaaaagagcc actttgtcat taaagtgaat gagtatgcat ttttagaaca gacttgatgt
                                                                         300
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                                                                         840
gccangcaga tgccancanc attgcttgga tagcctgcan aacttctttt ctttataaaa
                                                                         900
taccccaacc tnaggentta tgccatgett gaacaaccgt aatnentane ccaanggten
                                                                         960
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                                                                         360
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gaggtatatg gaagatgagg caccgagata agttcatcat taggtgtgag cactgctcac
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tccatcttaa tagaatctat gtggtatatg atgtggtcag cccctggtct gtgatcagca
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                                                                          600
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720
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                                                                      960
gagnagcctt aaaaaggggg caangtaang gttttcnggt atggaagcca aaanttttnc
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                                                                      180
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                                                                       4 B O
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                                                                      960
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ctgacattgg ctcttttnga agaataaact ttccttaccg naatttggaa aaggaccttt
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etteettgae gggteeettt teeettetgg gttgtettgg gaacetettt ggtgttgatg
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                                                                      660
tgtototoaa cagtotacto cagtocacot ggtotnocog agottococa ggacagtgaa
                                                                      720
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ngcaggccac aggctanaaa ctgtagtcnc ccgacattac aagccaattt gggnctgtgg
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ggnggneegt ttnaacetge ettttaaagg geecaattnn neeetntnna nnggagegan
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120
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                                                                      660
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960
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                                                                       120
                                                                       180
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                                                                        60
                                                                       120
egecaqtqtq etgqaatteg ceettagegt ggtegeggee gaggtacate tgattttata
tgttgtccaa actggtcaat ccagttgctt aacacagaaa gcggacagat gatcagtgtt
                                                                       180
gitcitggtc totoctcaac atcagtttic titgaccoot coactgoaca agotcootti
                                                                       240
                                                                       300
ttcaacattt tottttttgt tgtaggaaca gatgaagtta atgcacatgc aaatgccaca
                                                                       360
tettetataa eettagaaga teetttegee etgeetttag ttteagaetg tacagaggga
gagagagaga gaaagagagc acgccagtga gaaagcgagc gcgagcgcga gcgcaagggg
                                                                       420
                                                                       480
aggagaggt gggagagggc ggaaggggga aagctgtccg tgggagattg tgtcttcatg
tccacggggc tgcatctctt gatggtgcac tgaaaaagca gagctcacca gacagagtgg
                                                                       540
                                                                       600
aaaggcaggg ggaggggcag ggagcaacag aaggaagaga caacaagccc aagacagctt
ccatctcaga cggaaggccc ccagaagata gaattccagc cgactgaaaa accacccaat
                                                                       660
                                                                       720
gaacaaagaa gattctagaa aatagaagtg ttgggattac aaagttgngc gtttcatcgg
tacctgcccg ggcggncgnt caangggcga attctgcaga tatccatcac actggcggnc
                                                                       780
                                                                       840
gntcgagcat gcatntagan ggcccaantc gncctataag ggagtcgnan tacaattcac
ttgggccgcg ttttacaacg tctgacttgg naaaanccct gnggttnccc aacnttaaac
                                                                       900
                                                                       960
ggenttggag nacaattccc ctttttncca anntggggna antnaccaaa agggcccnn
accgatggnc cttttncaaa aagttgggcc aaccttgaaa gggcaaaaagg gccccccct
                                                                      1020
```

```
1024
ttaa
      <210> 98
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C or G
      <400> 98
gnngnnnnn ttnngaatgg gccctctaga tgcatgctcg agcggccgcc agtgtgatgg
                                                                        60
atatetgeag aattegeeet tgageggeeg ceegggeagg tacegatgaa aegegeaact
                                                                       120
ttgtaatece aacaetttet attttetäga atettetttg tteattgggt ggttttteag
                                                                       180
teggetggaa ttetatette tgggggeett cegtetgaga tggaagetgt ettgggettg
                                                                       240
                                                                       300
ttgtetette ettetgttge tecetgeeee tececetgee tttecactet gtetggtgag
                                                                       360
ctctgctttt tcagtgcacc atcaagagat gcagccccgt ggacatgaag acacaatctc
ccaeggacag etttecceet tecgecetet eccaecetet ecteccettg egetegeget
                                                                       420
egegeteget tictcactqq egigetetet tictctetet etetecetet giacagtetg
                                                                       480
                                                                       540
aaactaaagg cagggcgaaa ggatcttcta aggttataga agatgtggca tttgcatgtg
cattaacttc atctgttcct acaacaaaaa agaaaatgtt gaaaaaggga gcttgtgcag
                                                                       600
tggaggggtc aaagaaaact gatgttgagg agagaccaag aacaacactg atcatctgtc
                                                                       660
cgctttctgt gttaagcaac tggattgaca gtttggacaa catataaaaa tcagatgtac
                                                                       720
                                                                       780
ctcggncgcg accacgctta gggcgaattn cagcacactg ggcggccgtt acttaatgga
teegaacteg naccaageet tgegtaaaca tgggcaatac tggntteetg nggggaaatg
                                                                       840
                                                                       900
gtaatccggt tacaaattcc ccacaacntt acaanccgga agcccttaag ngtaaaaccc
                                                                       960
ctgggngccc caaagagtga gctaacttnc catttaaatg cgttngctca atggcccgtt
                                                                      1020
ttccatcggg naaaacctgn ngccantgga ttaangaatc ggncaaancc cccggggnaa
                                                                      1024
      <210> 99
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1024)
      <223> n \approx A,T,C or G
      <400> 99
aacgccagct tqqtaccqag ctcggatccc taqtaacggc cgccagtgtg ctggaattcg
                                                                       120
ccctttcgag cggccgcccg ggcaggtaca gataaatccg tgcatgcatt gagggagact
agagggtaaa atgaaatctg ccccatcctt cttacataca cagtgatagc attttgaatt
                                                                       180
gttottotac atttgaaato ttagotgaaa gatoatoago cacogacott ttgtgaagot
                                                                       240
agttctctag aacatacaat gttttttaaa aaattaaaaa cacagaagga aaaaagcaag
                                                                       300
aaccaacgat aaatggaget tgtgcagaat ctggcagtgc tgtggacctg cccatctgtt
                                                                       360
ctcccccgcg tactgactga acacactccc cgctttggtt cctgtaggac gggtgagata
                                                                       420
ccacaccttg gcaaccacca gtaaaggetc atagtctage cettgggagg ccccgatttt
                                                                       480
agggetgtge teggaggega cetaegttag ggactgggag aagegggtae eteggeegeg
                                                                       540
accacgetaa gggcgaatte tgeagatate cateacactg geggeegete gageatgeat
                                                                       600
ctagagggcc caattcgccc tatagtgagt cgtattacaa ttcacttggc ccgtcgtttt
                                                                       660
acaacgtcgt gactgggaaa accetgccgt tacccaactt aatcgccttg cagcacatcc
                                                                       720
ccctttcgcc agctgcgtaa taacgaaaag cccgnaccga tcgccctttc cacagttgcg
                                                                       780
caacetgaat ggenaatgga cocceettg taceggegea ttaaceneen geeggntnnt
                                                                       840
ggggtacccc cacgtggacc ggttcacttg gccagggccc taangnccgg ttcntttggt
                                                                       900
ttcttncctt contttttng coogttngcc nggtttttcc cgtaagcttt taaanngggg
                                                                       960
getteeeett ttangggtee aaataanget ttaegggnee tttaaceeee aaaaaaattt
                                                                      1020
                                                                      1024
nnnt
```

```
<210> 100
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
gggnnnnnnn ttnngtteng aattgggeee tetagatgea tgetegageg geegeeagtg
                                                                          60
tgatggatat ctgcagaatt cgcccttagc gtggtcgcgg ccgaggtacc cgcttctccc
                                                                         120
agtecetaac gtaggtegee teegageaca geectaaaat eggggeetee caagggetag
                                                                         180
actatgagee tttactggtg gttgecaagg tgtggtatet caccegteet acaggaacca
                                                                         240
aagcggggag tgtgttcagt cagtacgcgg gggagaacag atgggcaggt ccacagcact gccagattct gcacaagctc cattatcgt tggttcttgc tttttcctt ctgtgttttt
                                                                         300
                                                                         360
                                                                         420
aattttttaa aaaacattgt atgttctaga gaactagctt cacaaaaggt cggtggctga
                                                                         480
tgatctttca gctaagattt caaatgtaga agaacaattc aaaatgctat cactgtgtat
gtaagaagga tggggcagat ttcattttac cctctagtct ccctcaatgc atgcacggat
                                                                         540
ttatctgtac ctgcccgggc ggccgctcga aagggcgaat tccagcacac tggcggccgt
                                                                         600
tactaqtqqa tccqaqctcq qtaccaaqct tqqcqtaatc atqqtcataq ctgnttcctg
                                                                         660
                                                                         720
tgtgaaattg ntatccgctc acaattccac acaacatacg agcccggaag ccataaagtg
tnaaagccct ggggtgcctn atgagtgagc taactcacat ttaattgcgt tgcgctcact
                                                                         780
                                                                         840
ggcccgnttt cagtcgggaa aactgcntgc cactgcttaa tgaatcggcc acgcccggg
gaaaaagegn ttgegtantg ggegethtte egetttettg gttaactgac tenttggget
                                                                         900
ttggccttng gnttnnggnn aacgggttna acttncnttn aaangggggn naatccggtn
                                                                         960
tnccccgaaa nncggggata acccccggaa anaactttgn ccnaaaggcc cccnaaangg
                                                                        1020
cccn
                                                                        1024
      <210> 101
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(1024)
      \langle 223 \rangle n = A,T,C or G
      <400> 101
gggnnnnnnt tgaatnacac gccagcttgg taccgagctc ggatccctag taacggccgc
                                                                          60
cagtgtgctg gaattegeec ttagegtggt egeggeegag gtaegegggt attttettaa
                                                                         120
atttottgaa tgttotttat ggtagtgtta otaaaaagtt tatgatcaca ttttcattgt
                                                                         180
gaacataatt tgaactcatt atcacacact tggaaaatac agaaaagtgg aggaaaaaaa
                                                                         240
atcatatece caccatecaa agacatatae telectetta teligiticat teligitiet
                                                                         300
gtgcacaggt ttatgattat aactgtgtca aaatgtatat tcaaaatagc tgttacatta
                                                                         360
cctttgtgga attatggtta aatactttca ctttaatttt ttcaaatgtt ccctataata
                                                                         420
atgttctgat aacagtgtat tatgtgtgtc tccattggtg tgcataatac atacccagag
                                                                         480
gaaaaattaq aaaataaagt aaattatttt aaaaaattac ctatattccc aacacctaac
                                                                         540
aactactgct aacatettga tetgttteet etatettgtt teagtgcaca egettgtgat
                                                                         600
aacagtgtta aatatgtgtg cataaagtct taaatgaaaa gatgtggaaa ataactaaaa
                                                                         660
tagtgttgtc attgtgggaa tttggttaaa tattttgtct caaattcctt aaataatctt
                                                                         720
tggtgttttg gtaataaatt ttaatgatgt attttccatt acaaatataa tacatactca
                                                                         780
tacaaaactt tggaaaatta gtaaagaaaa ttcacacata ttcccacacc caacaccaat
                                                                         840
ttaactggtn accatctgga ctgngcncta agctgggatt antttaggng tagtggataa
                                                                         900
gtatgcctaa aggccaaaaa tgggaagaag gatgaaaanc cngaaaatan ttnccctggt
                                                                         960
gtnnggggaa taaggggaat ttgggttcgg ttcctttgaa agggcatnnn tttcaagggg
                                                                        1020
tttg
                                                                        1024
      <210> 102
```

<211> 1020

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1020)
      <223> n = A, T, C or G
      <400> 102
ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                        120
gctggaattc gccctttcga gcggccgccc gggcaggtac tetttetete ecetectetg
                                                                        180
aatttaattc tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatattg
                                                                        240
tgttgcaaaa aaaaaagtgt ctttgtttaa aattacttgg tttgtgaatc catcttgctt
                                                                        300
tttccccatt ggaactagtc attaacccat ctctgaactg gtagaaaaac atctgaagag
                                                                        360
ctagtctatc agcatctgac aggtgaattg gatggttctc agaaccattt cacccagaca
gcctgtttct atcctgttta ataaattagt ttgggttctc tacatgcata acaaaccctg
                                                                         420
                                                                        480
ctccaatctg tcacataaaa gtctgtgact tgaagtttag tcagcacccc caccaaactt
tatttttcta tgtgtttttt gcaacatatg agtgttttga aaataaagta cctcggccgc gaccacgcta agggcgaatt ctgcagatat ccatcacact ggcggccgct cgagcatgca
                                                                        540
                                                                        600
                                                                        660
totagaggge ccaattegee etatagtgag tegtattaca atteactgee egtegtttta
caacgtegtg actgggaaaa ccctgcgtta cccaacttaa tegeettgca gcacatecee
                                                                         720
                                                                        780
ctttcgccag ctggcgtaat aacgaaaagc cccggaccga tcgccctttc caacaggtgc
qcaacctqaa tggcgaaatg gacccccct ggaaccggcg cantaaaccc ccgncgggnn
                                                                         840
                                                                        900
nntngggtac ccccacggg ganccgttca cttggccann gccctaangn cccgttcctt
tnggtttctt teetteettt ttgecegttt gneegggttt teeeggnaag etttaaaaac
                                                                        960
gggggcctcc ccctttangg gtccnaataa nggcttttac gggnccttng aaccccaaan
                                                                       1020
      <210> 103
      <211> 1021
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (1021)
      <223> n = A, T, C or G
      <400> 103
ggagnnnttn ngnngggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat
ctgcagaatt cgcccttagc gtggtcgcgg ccgaggtact ttattttcaa aacactcata
                                                                         120
tgttgcaaaa aacacataga aaaataaagt ttggtggggg tgctgactaa acttcaagtc
                                                                         180
                                                                         240
acagactttt atgtgacaga ttggagcagg gtttgttatg catgtagaga acccaaacta
atttattaaa caggatagaa acaggctgtc tgggtgaaat ggttctgaga accatccaat
                                                                         300
                                                                         360
tcacctgtca gatgctgata gactagctct tcagatgttt ttctaccagt tcagagatgg
gttaatgact agttccaatg gggaaaaagc aagatggatt cacaaaccaa gtaattttaa
                                                                         420
acaaagacac ttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc
                                                                         480
aaattgcaag ttgaaagaat taaattcaga ggaggggaga gaaagagtac ctgcccgggc
                                                                         540
                                                                         600
ggccgctcga aagggcgaat tccagcacac tggcggccgt tactagtgga tccgagctcg
                                                                         660
gtaccaaget tggcgtaate atggteatag etgntteetg tgtgaaattg gtateegete
                                                                         720
acaattccac acaacatacg agcccggaag cataaagtgt aaagccctgg ggtgcctaat
                                                                         780
gagtgagcta actcacatta aatgcgttgc gctcactggc cgctttncag tccgggaaac
                                                                         840
ctgtcgtgcc agctgcatta atgaatccgg ncaacgcccc ggggaaaaag cggttgcgta
ttgggcgctc ttncgctttc ttggttactg gctccttgng cctcggccgt tccggnttcg
                                                                         900
                                                                         960
gnnaaccggt atcagcttac ttcaaangcg gnaaatccgg tttncccnga aatccggggg
ttaacnccag gaaaanaacc tttgaaccna aagggccccn aaaagggccc ggaaccctaa
                                                                        1020
                                                                        1021
      <210> 104
      <211> 1017
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1) ... (1017)
      \langle 223 \rangle n = A,T,C or G
      <400> 104
ggagnnntta atcnacgcen gettggtace gageteggat ceetagtaac ggeegecagt
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac tcagctgtct taataggatg
                                                                        120
aagcettaag cagtggaaat ttcagttatt ttccacagta ttccattttg gaggatttgg
                                                                        180
                                                                        240
ggtgtttact ttttaaattc ttgaacaact taacctccat gaggctttgt gaagtcagct
gtqaccaccc tectettact gtgtteteag tatteattea ettecaggga agaatgacag
                                                                        300
                                                                        360
\verb|ccacagggag| atggtggtgg| gcaagaatga| \verb|gagtcccagg| atccagattt| agcctcagat|
cttccccatt caggaagggt tttccattta acaagagcac tagtatgaaa acattaggga
                                                                        420
                                                                        480
caaatctccc atgtctttga aattcggatt ctcctcttga gatccccttc ctcacctgcc
aatcaacttt ataaggccac aagtggtcac tggttttoct tocacaggtt tgaggttoto
                                                                        540
agettteett aagegaeeca geageteege tettteaga gtgaatatgt taagetttga
                                                                        600
tgagattcta ttttcagtaa gttagtgctt ctgggacact tggagaaagc tgtgagagtc
                                                                        660
                                                                        720
attggctacg caaagaacaa cgaaagctga tectaaaagt gatecaatet aagaaaatgg
taaaacgage tetggecaca geacagaatt ttatgtgang aacteagatt tttgaagaet
                                                                        780
taacaattgc agaaaaaggn tgcagcctgn acacccatag cccaactttt ntgagccana
                                                                        840
ctttgggttt tgggngggga cntggcacca tgtttgnacc tggccggccg gnccgttcna
                                                                        900
aagggccaaa ttntggenga aatneettae actgggggge egtttgagea tgeetntaaa
                                                                        960
ngggcccaan tngnccctta aaggggggen nnttccaatt nnctgggccc ggttttn
                                                                       1017
      <210> 105
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A,T,C \text{ or } G
      <400> 105
ggagnnnntt nnntnnngan tgggccctct agatgcatgc tcgagcggcc gccagtgtga
                                                                         60
                                                                        120
tggatatotg cagaattogo cotttogago ggcogocogg caggtacaaa catgtgccac
                                                                        180
gtcaccacac aaaaccaaag totgotcaga gaggtgggct atggtgtgca ggctgcaacc
tttctctgca attgttaagt cttcaaaaat ctgagttcct cacataaaat tctgtgctgt
                                                                        240
                                                                        300
ggccagaget egitttacca tittettaga tiggateaet titaggatea gettegitgi-
                                                                        360
totttgcgta gacaatgact ctcacagctt tctccaagtg tcccagaagc actaacttac
tqaaaataga atotcatcaa agottaacat attoactotg aaaacagogg agotgotggg
                                                                        420
togottaagg aaagotgaga acctcaaacc tgtggaagga aaaccagtga ccacttgtgg
                                                                        480
ccttataaag ttgattggca ggtgaggaag gggatctcaa gaggagaatc cgaatttcaa
                                                                        540
                                                                        600
agacatggga gatttgtccc taatgttttc atactagtgc tcttgttaaa tggaaaaccc
ttcctgaatg gggaagatct gaggctaaat ctggatcctg ggactctcat tcttgcccac
                                                                        660
caccatetee etgtggetgt cattetteee etgaagtgaa tgaatactga gaacacagta
                                                                        720
aggaaggagg gtggtcacaa gctgacttca caaagcccta atgganggtt aagttggtca
                                                                        780
agaatttnaa aagtaacccc cccaaatcct ccaaaaatgg gaatactggt ggaaaataac
                                                                        840
ctggaaattn ccctggttta aggcttcatt ctattaagac cgcttgagta cccttggccg
                                                                        900
ngaaccccct taagggcgaa ntncaacaca ctgggngggc cggtacctaa nggatcccaa
                                                                        960
                                                                       1020
ctnggnaccc aanchttggg gaaancatng ggccataact gggttcccgg ggggaaatgg
                                                                       1024
      <210> 106
      <211> 1007
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1007)
```

<400> 108

```
<223> n = A,T,C or G
```

```
<400> 106
ggagnnnntt aaacgccagc ttggtaccga gctcggatcc ctagtaacgg ccgccagtgt
                                                                       120
gctggaatte gcccttageg tggtcgcggc cgaggtacac agaatagctg agcagttcac
ttcaqqqatc aqqtcatctc tqctcctcct aqtttcacca tgttctqqca ataaaaaaca
                                                                       240
catattatat cotggttttc totatcottg cattactaag gtgactgtct ctctttatac
atcettgtat ggttetecca gtattageaa gattgtatat etgtaaagaa tgteeagttt
                                                                       300
tgtaaatatt teeetgeett ttttttett tttttacate tgattttaat gettegttaa
                                                                       360
etteaaaagg aactggtaga gtteagaagg tgagetgttg tttttetaaa cetetteeca
                                                                       420
ggaaggggac attgacactt gaatttttgt cacctttttc ctcattagaa ggaaagtaga
                                                                       480
aagoottact gtaggatttt taaaaaaaaa tocatotoac cocatattgg tottaaataa
                                                                       540
gtatagacta attaacctaa gctaccttta acaacgtaga atttaanatg ggttcatata
                                                                       600
tgtgagaaaa acctgaatat aggacagggg tcctactttt ttccccacct ctgtcgccca
                                                                       660
ggetagagta ntaantggtg gatettggee caetgeaace tetgetteta gggteaagtg
                                                                       720
attetectge teageetnee aagtaneeeg ggaattggaa gagtatgeea ceaegeeeag
                                                                       780
ctactttttg gaattttagt nnaaaacagg ttcatcatgn tggnccenga agggenetta
                                                                       840
                                                                       900
antectgnee ttnagngate eccennana ngaaacentg gnenneecaa nnnnenggnn
thtagchnnn concegngee cannetaett thnnaannnn nnnnnnnnnn nnnnnnnnnn
                                                                       960
nnnnnnnaa nnngnnennn neengnnngn eennnnnngg gnaante
                                                                      1007
      <210> 107
      <211> 1024
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 107
gnagnnnnn nngattgggc cetctagatg catgetegag cggccgccag tgtgatggat
                                                                        60
atotgoagaa ttogoootta geggoogooo gggoaggtao titttitttt titttittt
                                                                       120
tttttttttt aattaattag aaagtagget gggeaeggng geteatgeet ataateeeag
                                                                       180
cacttgggga gqccqaggat ctcctctctg gnggatcact tgagggcagg agttaagaga
                                                                       240
ccatcctggc caacatgatg aaaccctgtc tctactaaaa atacaaaaag tagctgggcg
                                                                       300
tggtggcata ctcttacaat cccggctact tgggaggctg aggcaggana atcacttgaa
                                                                       360
cctaggaagc agaggttgca gtgggccaag atcacaccac tatactctag cctgggcgac
                                                                       420
agaggtgggg aaaaaagtag gacccctgtc ctatattcag gtttttctca catatatgaa
                                                                       480
cccatctaaa ttctacgttg ttaaaggtag cttaggttaa ttagtctata cttatttaag
                                                                       540
accaatatgg ggtganatgg atttttttt aaaaatccta cagtaaggct ttctactttc
                                                                       600
cttctaatga ggaaaaaggt gacaaaaatt caagtgtcaa tgccccttcc ttggggaaga
                                                                       660
ggtttagaaa aacaacagct caccttntga acttttacca gttccttttt gagttaaccg
                                                                       720
aagcnttaaa aatcagatgt aaaaaangaa aaaaaaaggc cgggaaattt ttaccaaact
                                                                       780
nggacattet ttacagatat acaatettge taaaacetgg gaaaaceett ecengggtgt
                                                                       840
ttaaagggga aacagtcccc cttataatgc ccggggttna gaaaancccg gattttnnaa
                                                                       900
                                                                       960
aaaggggttt tattgcccaa aactggggga accttngggg ggncccaaaa nnaacctgan
eccetgaagg nacegggtnn annnntttt tgggacettg geegggaace ecettinggg
                                                                      1020
                                                                      1024
ggna
      <210> 108
      <211> 470
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(470)
      <223> n = A,T,C or G
```

```
actatgacca tgattacgcc aagcttggta ccgagetcgg atccactagt aacggccgcc
                                                                             60
agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtactattt ttttttttt
                                                                            120
                                                                            180
ttttcgtgtn tttgacattc cttgaatctg ttttttattc cccttccaca gaacaggcct
gggactttcc aacaccctgc taaggaagtt ctgtgtccaa gtcccaccca ggctgggttg
                                                                            240
tececacetn etneagecea cacageceag geageateeg ggecagtgee etgeatgaca
                                                                            300
nagggtettt gttgtgtaat gnttgtteee aagttgeatt ttetaaeega ateagtgtgt
                                                                            360
tttcatgaaa ctgagtgtta ctgtggacca gtaagttnct ctgttgtctt cagtggtctt
                                                                            420
cctgtgtggc tcaagggttc tctgtgagag tctggatttt catttctggg
                                                                            470
      <210> 109
      <211> 808
       <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(808)
      <223> n = A, T, C or G
      <400> 109
gggcctctag angcatgete gaeggeegee atgtgatgga tatetgeaga attegeeett
agogtggtog oggocgaggt acaagtotgo otaagagaca gaagtgagtn ttataatota
                                                                            120
cttggccatt cctcccagca gagaagcagc aggtagatat ggcatgcact gtgcctgctg
                                                                            180
                                                                            240
ctgctgctct tgtggcgaac actcagatgt ggaaccatag agggaccttg aggagctggg
acatgattct ttagagaaga gaagagacgg ggagcacagc atgagaatgg ccagtcaacc catttcaaat tcttttatta aagtgccccc cgaggggcct tgcacaaaga tgatggggag
                                                                            300
                                                                            360
agcagaactg etgeteettg acagaactet gateettaca etttgtttgg agtgggettg
                                                                            420
gggacagtca caagccatga aacatgaatc caaaatggtc cccagatgag ccatggtgaa
                                                                            480
ccaacagatq caagcaactt cttaaactgc tctattaaac actgctttat atgtgtcccc
                                                                            540
atgatacaga aaagtgggat ggggccagcc attccagaaa tgaaaatcca gactctcaca
                                                                            600
gagaaccett gagecacaca ggaagaccae tgaagacaae agaggaacta etggtecaca
                                                                            660
                                                                            720
gaaacactca gtttcatgaa aacacactga ttcgggtaga aaatgcaact tgggaacaaa
cattacacaa caaagaccct ctgtcatgca gggcactggc ccggatgctg ctgggctgtg
                                                                            780
                                                                            808
tgggctggaa gangtgggga caacccac
      <210> 110
      <211> 471
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(471)
      \langle 223 \rangle n = A,T,C or G
      <400> 110
actatgacca tgattacgcc aagcttggta cegagetegg atccactagt aacggeeege
                                                                             60
                                                                            120
cagtgtgctg gaattcgccc tttcgagcgg ccgcccgggc aggtacagcg acgtgatgat
gtagaggege tteccateca ggetgagetg gateatetga gggeetneag ceaceegttt
                                                                            180
                                                                            240
tecettgace actagggget etggetggga etttagttee tegteeteea geacttgeac
agggeeteee ttaacaatge tgeeteegag gaagagetgt cetgtgagge ggggtetetg
tgggteagag atgteatact geeteaggte eccatgeage cagttgetga agtagaggaa
                                                                            300
                                                                            360
geggtegtee agggagagea ggatgteggt gateaggeet ggeatttegg geageageea
                                                                            420
                                                                            471
gcccttcact ttcttggggg gcacctggat caccttctcc actgaccatg t
      <210> 111
      <211> 468
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
```

```
<222> (1)...(468)
      <223> n = A,T,C or G
      <400> 111
actatgacca tgattacgcc aagcttggta ccgagctcgg atccctagta acggccgcca
                                                                         60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt acttnnttnc tttntttaca
                                                                        120
                                                                        180
tetgatttta atgettegtt aactteaaaa ggaactggta gagtteanaa ggtgagetgt
tgttttncta aacctnttcc caggaagggg acattgacac ttgaattttt gtcacctttt
                                                                        240
tcctcattag aaggaaagta naaagcctta ctgtaggatt tttaaaaaaa aatccatctc
                                                                        300
accecatatt ggtettaaat aagtatagae taattaacet aagetacett taacaacgta
                                                                        360
                                                                        420
gaatttagat gggttcatat atgtgagaaa agcctgaata tangacaggg gtcctacttt
tttccccacc tctgtcgccc aggctggagt atagtggtgt gatcttng
                                                                        468
      <210> 112
      <211> 813
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (813)
      \langle 223 \rangle n = A,T,C or G
      <400> 112
attgggcete thnagcatge tegacggeeg ceatgtgatg gatatetgea gaattegeee
                                                                         60
tttcgagcgg ccgcccgggc aggtaccatg ctgacttctt ggtatctttt anggcctaat
                                                                        120
tttcccttcc ttgagattac tgtagtgtgt tccagctaat ttctatttgg aaacgagttg
                                                                        180
gaacagctga aaactaggta ttattgaagg caaagcagcc tcacgtcagt tttttatcag
                                                                        240
ctcatttggg aagttttnnt tttttttntn ttaattaatt agaaagtagg ctgggcacgg
                                                                        300
nggeteatge etataateee ageaettggg gaggeegagg ateteetete tggtggatea
                                                                        360
cttgagggca ggagttaaga gaccatcctg gccaacatga tgaaaccctg tctctactaa
                                                                        420
aaatacaaaa agtagctggg cgtggtggca tactcttaca atcccagcta cttgggaggc
                                                                        480
tgaggcagga gaatcacttg aacccaggaa gcagaggttg cagtgggcca agatcacacc
                                                                        540
                                                                        600
actatactcc agcctgggcg acagaggtgg ggaaaaaagt nagacccctg tcctatattc
aggetttget cacatatatg aacceateta aattetaegt tgttaaaggt agettaggtt
                                                                        660
aattagnota taottattta agaccaatat ggggtganat ggattttttt ttaaaaaatno
                                                                        720
tacagtaagg ctttctactt tccttctaat gaggaaaang gtgacaaaaa ttcaagtgtc
                                                                        780
                                                                        813
natgcccctt cctggggaag aggtttaaaa aat
      <210> 113
      <211> 506
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(506)
      \langle 223 \rangle n = A,T,C or G
      <400> 113
necaacttgg taccganete ggateeetag taacggeana cattganetg atacgecaag
                                                                         60
cttggtaccg agctcggatc cactagtaac ggncgccagt gtgctggaat tcgcccttcg
                                                                        120
ageggeegee egggeaggta egeggggeet etggegetae eatggegttt ggeaagagte
                                                                        180
accgggatec ctacgcgacc tccgtgggcc acctcataga aaaggctaca tttgctggag
                                                                        240
ttcagactga agattggggc cagttcatgc acatctgtga cataattaac actacccagg
                                                                        300
atgggccaaa agatgcagtg aaagctttga agaaaangat ttncaaaaac tacaatcata
                                                                        360
aagaaatcca acttaccttg teacttattg acatgtgtgt gcagaactgt ggtecaagtt
                                                                        420
tccagtctct gattgtgaag aaggaatttg ttaaagagaa tttagttaag ctactgaatc
                                                                        480
ccagatacaa cttgccatta gacatt
                                                                        506
```

<210> 114 <211> 813

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(813)
      \langle 223 \rangle n = A,T,C or G
      <400> 114
gggcccntnn agctgctcga gcggccgcca gtgtgatgga tatctgcaga attcgccctt
                                                                         60
agcgtggtcg cggccgaggt acaacttatt ctaaatattt tcattttctg tgttctaaat
                                                                        120
agaaatatta agttgcagta aaaagagaaa aaaaggctat ttagcattac aaagaatcat
                                                                        180
atttaaaggc tgcccaatgt agagtctagt gacctgttca ggacacctga aatataatta
                                                                        240
aatgacaatt atcaaggttt taacaattta taattctaaa ccagaggatt ataaagaagt
                                                                        300
gcaaattgac ttttacattc aactttagtt aaatgaaggc actcagtatt cttcctgaat
                                                                        360
aatacattca gtttctcaca ttttatgctt tcatctattc agaattattt catagtaaaa
                                                                        420
taatctactc ttatcacagc tgtgtgacga tttctaaatg taggaaggcc tgtgaaacat
                                                                        480
gacactgcag ttaaattggt tggcctaagg actaagtaat ttttcttctg ctgaaqtttt
                                                                        540
aagtgagtat ttgttccaaa caagttctgt tgaaatctca cgctgttgtc aggaatcagt
                                                                        600
gttatcctgg aactgttatt ctatttaatc ttcattatag cagaaatgtg ccaccatggc
                                                                        660
tttgacatgt tggtaggtat tgtcttccag gcttcaaagc tgcacagagt ctacgtttta
                                                                        720
gagagttggc acctttgatg tggtagtgag ctgatcatnc actttcttct cagtcaccat
                                                                        780
cattttgage teetttgtge tggtgageat can
                                                                        813
      <210> 115
      <211> 471
      <212> DNA
      <213> Homo Sapien
      <400> 115
accagetatg acctgattac gecaagettg gtaccgaget eggatecact agtaacqqcc
                                                                        60
gccagtgtgc tggaattcgc ccttagcgtg gtcgcggccg aggtaccatg attttgtgtt
                                                                        120
caggaaacaa agaacatgaa atattacatt cttcaqaatq tttttcttqt qccattaaat
                                                                       180
gaatcaagta aatgaggcaa tgaggcacaa ataaggaatt tagatttcag caatattttq
                                                                        240
atccactgta getttcagtt tetgaaactt tggaagggee tacatacttt gtaagaattt
                                                                       300
ttggcttata ttgttaataa tcaacagagc caagaaaaca tttcttagaa tgttcaaaga
                                                                       360
caccacctta gccttccttc cctgcagcta taacattatt tttctaagag aaaaggcaga
                                                                       420
gagtetteac aaageeatac cagaettaaa attaccagag aacattttgg t
                                                                       471
      <210> 116
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (818)
      <223> n = A,T,C or G
      <400> 116
ttncannggg cccctagagc atgctcgacg gccgccatgt gatggatatc tgcagaattc
                                                                        60
gccctttcga gcggccgccc gggcaggtac ttttttttt tttttttt ttttttttt
                                                                       120
tgtggtcttg aactootggo otcaaatgat ottootgoot cagootooca aagtootggg
                                                                       180
attactggca tgagtcacca cacctggctc attcttttc ttaatatggc tctaaatggc
                                                                       240
tttttatttt ttttgctttg gcaatttatt tctaggaaat taaataattc tttcattata
                                                                       300
atcaagggaa tgaaagactt caggaggtcc atagtggagt tcaaaaccat atggagttca
                                                                       360
ctattctaca agattataca ggcaataata taagtattct aaggtgtttt aggtagattt
                                                                       420
atagatgtta gatttcaaaa tgggttaata agtgtttatg aatttccaag gtgtatcact
                                                                       480
aactteteaa gatgaaatea tatatagaaa etateaaaat ttteettgtt etgetgteaa
                                                                       540
gaaatgaata atatacactg atataactgt aactcacatc taaagggata gtgcttgaat
                                                                       600
aagctaattt acaatgagtt caaggtatta ttttaaaatt cttattqncc ttaqacaata
                                                                       660
attatgccaa caaatgtgaa aaatattaaa teteettetg ntaattitte cagitttatt
                                                                       720
```

```
780
acccaaaagt cacacaggta atgcaagtca tgaaataaat caaatgagcc cttcctggag
                                                                        818
agcctacttt atttaccttg ggaaaatgga tgacatnt
      <210> 117
      <211> 467
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(467)
      <223> n = A, T, C or G
      <400> 117
accactatga cotgattacg coaagettgg taccgagete ggatccacta gtaacggccg
                                                                         60
ccagtgtgct ggaattcgcc ctttcgagcg gccgcccggg caggtactac tggttttctc cctggcttca cgtgtctctg tgttccccta tgctgggtg tcctcccagt gctttcaggc
                                                                        120
                                                                        180
240
                                                                        300
ctcagtcgcc cangctggag tgctaacctc tcctttcatg tggagatgga cagggatggc
aggagcactg agtgctcttg acaacaccat tgaagatgat gctgacgatc agctaccctg tggagaaggc aggccaggct gggtgagagg ggagctcctt ggaagtcagg gggtctgtaa
                                                                        360
                                                                        420
ggacagcaag gatctctttg tcccaacctc cagcagcctt tatgggt
                                                                        467
      <210> 118
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (815)
      \langle 223 \rangle n = A,T,C or G
      <400> 118
gggeetetna ageatgeteg aeggeegeea tgtgatggat atetgeagaa ttegeeetta
gegtggtege ggeegaggta cetggggtet cagggttget etgggeetga teatecaete
                                                                        120
agatetgtaa ggaggatttg caggatecat ttagaaagat cetecettae ttecacaage
                                                                        180
                                                                        240
atggcctttg gctcttaaat acctgtgctg gggttttgta attatagaaa caacaggaac
caaaactcat taatgttgag ctacaaacca gagggaagct totttotcaa aacagggotc
                                                                        300
aggectagaa aaatetagtt ttetgaaate getagecage aacagcactg agatggecat
                                                                        360
cccagaaaca aggccaacac agaagcaccc ataaaggctg ctggaggttg ggacaaagag
                                                                        420
atcettgetg teettacaga ceceetgaet tecaaggage teceetetca eccageetgg
                                                                        480
cotgection coacagggta gotgatogto ageatoatot toaatqqtqt tgtcaagago
                                                                        540
actcagtgct cctgccatcc ctgtccatct ccacatgaaa ggagaggtta gcactccagc
                                                                        600
660
ggaaggagat gaageetgaa ageaetggga ggaeaeeeea geatagggga acacagagae
                                                                        720
acgtgaagcc agggagaaaa ccagtagtac ctgcccggcg gccgntcgaa agggcgaatt
                                                                        780
ccagcacact ggcgggccgt tactagtgga tccct
                                                                        815
      <210> 119
      <211> 811
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(811)
      <223> n = A, T, C or G
      <400> 119
gggcctctnn agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                         60
cgtggtcgcg gccgaggtac tctatttttt gcttgtatga ttgatgggtc tttcattatc
```

```
180
tgtgattgac attctatgag taggtgcttt tgctttgcct ataagtcgtt attatgaagg
aggaatggtg aataagaagg taatttagaa aagcctatat taaatatacc atgaacattg
                                                                        240
                                                                        300
aatatagcaa gatcttattc tctagttgtt atcttagttg ataaattctg tatgtgttat
gtgtttgtgt atacatatgt acttaatctg atcggtatct aaaagaagga aaggatggtc
                                                                        360
aggaaacatt tatcataaat gtagccaagg atatcaatta gggtagacaa gaataggaca
                                                                        420
aaaataggcc agagctcctg aggaggtgat atgggtccct tgatttgcag aaaatgacag
                                                                        480
                                                                        540
cctatccaag tggcccagtg tatgcctccc agtagcagtg ggcatgtaaa ctgcagcgac
cttattttta aaaccaaaaa cctagtatgt ggacaaagaa catgacaata tttggtacct
                                                                        600
gecegggegg eegetegaaa gggegaatte cagcacactg geggeegtta etagtggate
                                                                        660
cgagctcggt ccaagcttgg cgtaatcatg gtcatagctg gttcctgtgt gaaattggta
                                                                        720
tecegeteae aattneeaea cacataegaa eeeggaagea ttaaagtgta aaageetggg
                                                                        780
gtgcctaatg aagtgagcta ctcacattaa a
                                                                        811
      <210> 120
      <211> 466
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(466)
      <223> n \approx A,T,C or G
      <400> 120
antigacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                        60
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg tacccacgtt ttgctccaca
                                                                        120
ctccttgacc acaggggctc ggacacaaac ccctgtcacc aggagagtca gtcagcacta
                                                                        180
cttgggaggg ctaaagggaa atttggaaat aaaattccaa agtttggagt aaaaaaattc
                                                                        240
augigitigat tittatatict ticccttict gacacageet aaagegtagg gggaacatgt
                                                                        300
                                                                        360
gtttatctgt gggagataaa caagatggag tcccaaagac tttaacaaaa tatttttta
aaaatccact agaatagaaa atacattatt tagatatact ttatgctgag agtgagtata
                                                                        420
tatgettgte etatttaaac ttgtgagaaa aagtggtate eettng
                                                                        466
      <210> 121
      <211> 812
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(812)
      <223> n = A, T, C or G
      <400> 121
ttgggcccnt nnagcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc
                                                                        60
cttagegtgg tegeggeega ggtacaacte tecagggeae aataegttta cagetgeett
                                                                        120
tectteacat actitictaa ticagaacta etcacaatte taagcaaatt eccaticaeg
                                                                        180
aagtotgtoo ataatgogao ottototttt tttaacatat acatottaaa aaacaaatat
                                                                        240
ataaaaaatt cttattttgc tggaatgctt tcaatttttc acattttaca tgatcatcac
                                                                        300
atttatttet tatattgaaa ggcatggttt etgttgacat gtegtgeaaa gecaaaaaaa
                                                                        360
aaaaaaaaa aaagggctgg attgcttttc aattggtcta acacttttcc ttgtctaggc
                                                                        420
tttggatttt, aaagtteatg acageeecac caccagtaga aaceecaagg ettgeattte
                                                                        480
ctggtaatcg actggaaacg teceetgttg gecatgetaa gatteettea acagggteat
                                                                        540
cotgoattta ttotoottot gooccaccoo cacaatgaaa caagatagoo cocatattto
                                                                        600
taaatgtatc aagggatacc actttttctc acaagtttaa ataggacaag catatatact
                                                                        660
cacteteage ataaagtata tetaaataat gtatttteta ttetagngga tttttaaaaa
                                                                        720
aatattttgg taaagtettt ggggaeteea tettggtfat etteeacaga taaaccatgt
                                                                        780
teccectacg etttaggetg tggteagaaa gg
                                                                        812
      <210> 122
      <211> 467
      <212> DNA
```

<213> Homo Sapien

<400> 122
actatgacca tgattacgcc aagettggta cegagetegg atceactagt aacggeegee agtgtgetgg aattegeect tagegtggte geggeegagg taccatgetg acttettggt atctttaag geetaatttt ecetteettg agattactgt agtgtgttee agetaattte

<210> 123 <211> 864

<212> DNA <213> Homo Sapien

<220>

<221> misc_feature <222> (1)...(864) <223> n = A,T,C or G

<400> 123

gggcctctng agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt 60 togagoggco geoogggcag gtactttttt tttttttttt tcttttttta catetgattt 120 taatgcttcg ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc 180 taaacctctt cecaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt 240 agaaggaaag tagaaagcct tactgtagga tttttaaaaa aaaaatccat ctcaccccat 300 attggtctta aataagtata gactaattaa cctaagctac ctttaacaac gtagaattta 360 gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac ttttttcccc 420 acctetyteg eccaggetag agtatagtgg tytgatettg geceaetyca acctetyett 480 540 cetaggitca agigattete etgeeteage eteceaagia geigggatig taagagtatg ccaccacgcc cagctacttt ttgnattttt agtagagaca gggtttcatc atgttggcca 600 ggatggnete ttaactectg cecteaagtg gatecaceag agaaggagat ceettggnet 660 tocccaagtg cotggggatt attaggoatt gaagoocaco ogtggoocca agooctaont 720 780 aaattgganc ctgggtttaa aaaaacctgg acccttnaan gggcntggnt tttggccctt 840 tnaaataaat tncccctaag gnnt 864

<210> 124

<211> 467

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1)...(467)

<223> n = A,T,C or G

<400> 124

antatgacet gattacgeca agettggtac egagetegga tecaetagta aeggeegeea 60 gtgtgetgga attegeett tegageggee geeegggeag gtacatgeae acaecacac 120 acaecacacac aegtgtetac tegggeteett teggattett tagtecaate agaaatcace 180 aaacagatea ataaagagge aatgttaaat gacegggaaa teggtaatgt gacatcacaa 240 caetgeettt aaggtgeeat atetaaatee aggtageact getgetagea gaatetgttg 300 tettaggaga caagggtggg etgggtatge teggetegge etataattee ageaetttga 360 gagggeaagg caggagaace acattagget aggagtetan gaceageetg ggeaacatag 420 tgagateeca tetetacaaa aataaaaaaa teagettee agetget 467

<210> 125

<211> 833

<212> DNA

```
<213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (833)
      <223> n = A,T,C \text{ or } G
      <400> 125
gnnnnnnnnn ngnnttnnnn ntttaataga tgagcgtacg gngcctgtaa agcatgctcg
                                                                          120
ageggeegee atgtgatgga tatetgeaga attegeeett agegtggteg eggeegaggt
acctgatate gtttaacttt cetetttate tttettagag ataetteaca tgtgggacag
                                                                          180
attatatttt ggaaagatgt ccacaacaat attgeccate ccacattget catettacaa
                                                                          240
                                                                          300
tgtgatctca agactcctcc cactgagtgg gtgagaaggg acttatacca ctttcatttg
aatctaggca gatctgtgtg acagccttga ccaatagagt atggttaaag tgatgccccc
                                                                          360
aggeatggtg geceatacet ggaateetgg ttttteeggg aggeecaggt gggggtagag
                                                                          420
gtgaggggga tgattgtttg aacacacgag tttgagacta ccctgagcaa cacaatgaga
                                                                          480
ccctattttt ttttaatgat ttctgaagca gaatcacaaa tagccgtgcg tttttttctt
                                                                          540
gegettttag gataettaet tttaaaaece agteaceata ttgttaggaa geecaaacag
                                                                          600
                                                                          660
cacacataga gagacatacg gagaagccaa ccatagaggt teetgttgac agetcanteg
aggictiaac caacagicat acttagetge cagecatatg agigaaggge tincagatga
                                                                          720
ttctaacgcc cagcagttgg gtccccccag cctgtaagcc ttcccagctg aggcctnaca
                                                                          780
                                                                          833
atgatggagc anagaaaagt gtccctgtcc aaattctgac ccatgataaa atg
      <210> 126
      <211> 788
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (788)
      \langle 223 \rangle n = A,T,C or G
      <400> 126
                                                                           60
nnnnnntnn nnacanttga ctgataccca acttggtacc gactcggatc cactagtaac
                                                                          120
ggccgccagt gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac gcgggggatc
                                                                          180
agagagaagc gaggtteteg ttetgaggga caggetegag ateggetgaa gagageggge
ccaggetetg tgaggaggea agggaggtga gaacettget etcagagggt gaetcaagte
                                                                          240
                                                                          300
aacacaggga accectett tetacagaca cagtgggteg caggatetga caagagteca
ggttctcagg ggacagggag agcaagaggt caagagctgt gggacaccac agagcagcac
                                                                          360
tgaaggagaa gacctgcctg tgggtcccca tcgcccaagt cctgcccaca ctcccacctg ctaccctgat cagagtcatc atgcctcgag ctccaaagcg tcagcgctgc atgcctgaag
                                                                          420
                                                                          480
aagatettea ateccaaagt gagacacagg geetegaggg tgeacagget eccetggetg
                                                                          540
tggaggagga tgcttcatca tccactttca ccagctcctc ttttccatcc tcttttcctt
                                                                          600
                                                                          660
ctccttcntt ttctnctnct nctnctgcat ctntaatacc aagcacccca naggaggttt
ctgctgatga tgagacaccc aaatnettee anagtgetna anatageetg ntnetteecc
                                                                          720
                                                                          780
ctinggnent gettteeett nenttanatt naatnetgat taaggggtte cancanneca
                                                                          788
aaaggaat
      <210> 127
      <211> 766
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(766)
      <223> n = A,T,C or G
      <400> 127
gggcctctna agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                           60
                                                                          120
cgageggeeg eccgggeagg tactecaggt agtttteetg caeccaatet tgggtgagea
```

```
gtgcttccca gatgacctcc tcaqqqqtqc agtagccctc tatgaagatt atgcttagga
                                                                      240
                                                                      300
taagtatgag aatgecagte ttgggcatge tetggacate acteagcate ceatcatagg
tgaggcccag ggaggtgaca aggacaaagg agtggccagt gggatccact tcctttacat
                                                                      360
                                                                      420
caatgccaaa gaccagcagc atgcactcgg aggcttcact aaacaacaaa gggaagtggt
cttcataatt ttttatgaca ctctccaqta tttctqcctt tgtqatcqqc tccttcattt
                                                                      480
                                                                      540
gatacttgaa gagcagaaac tgcaccaaat cagtcacctt ttcatctatc tcacttctgg
gtaaagactc actgtctggc aggacctgta gggtgcttgg actctcctcc ttttggctgc
                                                                      600
tggagccctc atcagattga tctaatggaa gggaagcaac gaccganggg gaggagcagg
                                                                      660
ctatctgagc actctgggga ggatttggtg tctcatcatc agcagaaacc tnctctgggg
                                                                      720
tgcttgggta ttagangatg gcaggaagaa gaagangaag aggaag
                                                                      766
      <210> 128
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (779)
      <223> n = A,T,C or G
      <400> 128
gnnnnntnnn nacactantt tnngacccgn canctggtac cgactcggac cactagtaac
                                                                      60
ggccgccagt gtgctggaat tcgccctttc gagcggcccg cccgggcagg tactcctcat
                                                                      120
cotgogtttg gtotocaggt gtogocttto tgcogtgtto ctaatatttt gattoctgto
                                                                      180
ttgaaaaaag cacctgctgc acagtaagcc cagggatgtg gcagctgcag cgggcttggc
                                                                      240
tttgtgagga accgggtgtg tccacgttgg gggaacatca tacttgatac acacgttttt
                                                                      300
                                                                      360
atttgcacaa agaaaatgct atttttggag ccagaatttt catgtctgat ttatggtgat
tttcttaaga accagaactg ctggcagaaa gggggcaccc acacgcttag atagccgatg
                                                                      420
tottattaga gggcagtttg tggttootga tttggaaatt aatattotoo aaacattooa
                                                                      480
gtccaatgaa agttttatcc gctttcccat gtaaaaattc ttcccatgag agtgacttga
                                                                      540
tecteacaat ecegttgaag tegtgtgtga gteetacagt attaggttea geattgeegt
                                                                      600
ctncaagtgc tetttgtagg gaaacagttt etggteatga caagetteca ettecatetg
                                                                      660
atcctggcct ggcctggaaa cagagcacat gtgtttgagg atggcngtgt ttggggacag
                                                                      720
gacatgancg tattgtgtgg ggctgctagg acangcgtgg tgtggtgggg gantgtccn
                                                                      779
      <210> 129
      <211> 774
      <212> DNA
      <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1)...(774)
     <223> n = A, T, C or G
     <400> 129
ttnnnantgg gcccntngag catgctcgac ggccgccatg tgatggatat ctgcagaatt
                                                                      60
cgcccttagc gtggtcgcgg ccgaggtacc tgggtgggac tgggaaactg tgaaacaagt
                                                                      120
agactgactt ggacactccc ccaccacac acgcctgtcc tagcagcccc acacaatacg
                                                                      180
ctcatgtcct gtccccaaac accgccatcc tcaaacacat gtgctctgtt tccaggccag
                                                                      240
gccaggatca gatgggaagt ggaagcttgt catgaccaga aactgtttcc ctacaaagag
                                                                     300
cacttggaga cggcaatgct gaacctaata ctgtaggact cacacacgac ttcaacggga
                                                                     360
ttgtgaggat caagtcactc tcatgggaag aatttttaca tgggaaagcg gataaaactt
                                                                      420
tcattggact ggaatgtttg gagaatatta atttccaaat caggaaccac aaactgccct
                                                                      480
ctaataagac atcggctate taagegtgtg ggtgcccct ttctgccage agttctggtt
                                                                     540
                                                                     600
cttaagaaaa tcaccataaa tcagacatga aaattctggc tccaaaaata gcattttctt
tgtgcaaata aaaacgtgtg tatcaagtat gatgttcccc caacgtggac acacccggt
                                                                     660
tectnacaaa gecaageeeg etgeagetge cacatteetg ggettaetgt geacangtge
                                                                     720
                                                                      774
tttttttaag acaggatcaa atnttaggac congnanaan gcaacacotg gaga
```

```
<210> 130
      <211> 803
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(803)
      <223> n = A,T,C or G
      <400> 130
ggnnnnttnn anacquatcn gacctganta cgccaacttg gtaccgagct cggatccact
agtaacggcc cgccagtgtg ctggaattcg cccttagcgt ggtcgcggcc cgaggtacct
                                                                       120
tggaagttat gicattaata taggetggtt egicaaataa ageaaaacet tgeaatatea
                                                                        180
                                                                       240
gctagattta cactccggga cgttgcccaa aggtaggaag aaagcagagg gaaatatttc
agtcatcatt tccaaagtca ttatcaaaat ctgtgaggaa gtttaatctt ccaaagagtc
                                                                       300
                                                                       360
aatgtcagac atcaggcoto tgttgcotgo ttototogag gcactagatt aggagtotto
aataagagac ttaacatgag gtatatggaa gatgaggcac cgagataagt tcatcattag
                                                                        420
gtgtgagcac tgctcaccct tgctggcaag ttctccttaa gggcctgaag cacaggtgtc
                                                                        480
caaagaaaag cgttaagtcc atcttaatag aatctatgtg gtatatgatg tggtcagccc
                                                                       540
coggictgig alcagcaaga acctacagca cagattatgc cotgoccact tcaatgaata
                                                                        600
cctactctcc tncattctcc atcacttttt ttgctatcaa gactccggac cttgcccatg
                                                                       660
gagaagttta gagaggaact cttgtggaga gctggtttat tttctgccct gtgcgacgag
                                                                        720
                                                                        780
tttcagcttg gccaaagaaa ggagtcaagg ttattaaaaa gcatcacaat ggtagatett
ccaggettgg ntttttttgt ttt
                                                                        803
      <210> 131
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (818)
      \langle 223 \rangle n = A,T,C or G
      <400> 131
antgggcctc tnnagcatgc tcgacggccg ccatgtgatg gatatctgca gaattcgccc
ttngcccgct ttccagncgg gaaactgtc ntgccagntg cattaatgaa tcngccaacg
                                                                        120
cgcggngaga ggcggnttgc gtattgggcg ctcttccgct tcctcgctca ctgactcgct
                                                                        180
gegeteggee gttengetge ggegageggt ateageteae teaaaggegg taataengtt
                                                                        240
atccacagat caggggatan cggcaggaaa gaacatgtga ncaaaaggcc agcaaaaggc
                                                                        300
caggaaccga aaaaaggccg ctttgttggc gtntnaccat aggctcnncc cccttgacna
                                                                        360
getteacaaa aatetaeget cagnteecag gtgenaaate eeganaggae tntaangatt
                                                                        420
cnnggnnttt ccccctgaan netnectant gegeteteet gtnecaacet tgeegtttac
                                                                        480
eggatacetg neegeetnna theettegng aagentgget titnaatngg etcactittt
                                                                       540
gggnatctaa aancggnnta ggcngnncgt tnnaaantng nntttttgcn caaacccct
                                                                        600
gtttaaactn acccatgngc attatcccgg aaacttttgg tnttngaatc caaccnggna
                                                                       660
aanacacnan ttaatnnqcc nttgqcntga aacccacttg qqtnaaccat qqattttqqc
                                                                        720
ncnaccnagg gtnnttttnn nggenggtne ntacceggag ttetttnaaa aengggtggg
                                                                        780
cncttanacc tatenggnnt teceetttan aaaaaaat
                                                                        818
      <210> 132
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (777)
      <223> n = A,T,C or G
```

```
<400> 132
acnntatgac ntgantaccc aacttggtac cgactcggac cactagtaac ggccgccagt
                                                                      60
gtgctggaat tcgcccttcg gcccgcccgg gcaggtacct ggaaaataac ttctttcttt
                                                                     120
tcctctagat tttcgaagaa gcaaataaat caagaataga aacctatata taggaggttg
                                                                     180
                                                                     240
ggeeteetge aaagaatgaa geactttttg ttaaatacag gagaggetae ttggetgeae
taatatgtgc ttttttggaat cttatagagt gtcaccaagt tgaactttgg aatggcttga
                                                                     300
atcatecetg gageatetgt geegggeagt caggagtgag tgeacegeet eccacecage
                                                                     360
                                                                     420
cccattgggc ctcacaccct cttcattcct ttccccatga ggcaggcaaa cacggtcatg
accattttgg ggttcacttc aaccaggtct tctggcaggg catacactct tgctccaatt
                                                                     480
tttcgggcca tagagatggc atattttgca ttgttgagtt tctcatcatc attcagattt
                                                                     540
tctgtcttca gaaggtcata gttaatggaa cctggttgga tggcatcgat gangtccaga
                                                                     660
acaggcagae tigiaceteg geegegaeea egetaaggge gaaitetgea gataineate
acactggcgg gccgntcgag catgcatcta ganggcccaa ttcgccctat agtgagtcgt
                                                                     720
                                                                     777
attacaatte actgggccgt cgttttacaa cgtcgtgact gggaaaaccc tgcgttn
      <210> 133
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(775)
      <223> n = A,T,C or G
      <400> 133
ntgggcctct nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                      60
                                                                     120
tagegtggte geggeegagg tacaagtetg cetgttetgg aceteatega tgecatecaa
ccaggttcca ttaactatga ccttctgaag acagaaaatc tgaatgatga tgagaaactc
                                                                     180
aacaatgcaa aatatgccat ctctatggcc cgaaaaattg gagcaagagt gtatgccctg
                                                                     240
ccagaagacc tggttgaagt gaaccccaaa atggtcatga ccgtgtttgc ctgcctcatg
                                                                     300
gggaaaggaa tgaagaggt gtgaggccca atggggctgg gtgggaggcg gtgcactcac
                                                                     360
tectgactge eeggeacaga tgeteeaggg atgatteaag ceattecaaa gtteaacttg
                                                                     420
gtgacactct ataagattcc aaaaagcaca tattagtgca gccaagtagc ctctcctgta
                                                                     480
tttaacaaaa agtgcttcat tctttgcagg aggcccaacc tnctatatat aggtttctat
                                                                     540
tottgattta tttgottott ogaaaatota gaggaaaaga aagaagttat tttocaggta
                                                                     600
cctgcccggg cggccgaang gcgaattcca gcacactggc ggccgttact agtggatccg
                                                                     660
agcteggtac caagettgge gtaateatgg teatagetgt tteetgtgtg aaattgntat
                                                                     720
                                                                     775
ccggtcacaa ttcccacaca tacgaacccg gaagcataaa gtgtaaagcc tgggg
      <210> 134
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(772)
      <223> n = A, T, C or G
      <400> 134
aconttgace tgatacecag etggteegac teggacecta gtaacggeeg ceatgtgetg
                                                                      60
                                                                     120
gaattegeee ttgageggee geeggggeag gtetataagt etttaaattg ggtegtgttt
ttagcaggta agactaattt atctcttctc cagtgaattg atgctggtgg gattcgattt
                                                                     180
240
atataaactt gggggcatat tcaatatcaa ggtacttttt ttttttttt aagttttagt
                                                                     300
tcagaataac attaattttg agagattgag gtaaagaacc ttaactaatg ctaaggagtt
                                                                     360
tattttgatt aacataggtt attctgacca ccacctcttc cttccttaat ctccttagaa
                                                                     420
tetgacagte teaaagetgt cacacaaatt agactaattt tgacaetttg aaatgaaaac
                                                                     480
ttcaaggaag aagtageeac ggacagttat gtttataatc agtaggtggc actettteet
                                                                     540
caggtagccc cccattttca catgatgtgt ttgaaggtta aatgccccaa aagtgctgag
                                                                     600
tcagctataa aactaagtcc ctgaattcca tggccctttt aaatatgtaa tcattcaaga
                                                                     660
```

```
ttqaaaaaaa aaattaaqca ttttttgntt gnttgcttgg ttggttttga gacngagttt
                                                                         720
                                                                         772
cactettgnt ggccaggetg gagtgcaatg gegecatetn acteactgna ag
      <210> 135
      <211> 784
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (784)
      <223> n = A,T,C or G
      <400> 135
ntgggcctct nnagcatgct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                          60
tagogtggto goggooogag gtacttottt tgaataatto agtattttaa aaatgcaago
                                                                         120
caggcacagt ggctcacgcc tgtaatccag cactttggaa ggccgaggtg gggggatcac
                                                                         180
gaggtcagga gttcaagacc agcctggcca acatggtgaa acctcatctc tactaaaaat
                                                                         240
acaaaaacta getgggcatg gtggegggea cetgtaacce cagetacttg gagggetgaa
                                                                         300
                                                                         360
ggagaattgc ttgaatccgg gaggcagagg ttgcagtgag ctgagatggc gccattgcac
tccagcctgg ccaacaagag tgaaactccg tctcaaaaac aaacaagcaa acaaacaaaa
                                                                         420
                                                                         480
aatgcttaat ttttttttc aatcttgaat gattacatat ttaaaagggc catggaattc
                                                                         540
agggacttag tittataget gactcagcae tittggtgge atttaacett caaacacate
atgtgaaaat ggggggctac ctgaggaaag agtgccacct actgattata aacataactg
                                                                         600
                                                                         660
teogtggeta cttetteett gaagttttea ttteaaagtg teaaaattag tetäatttgt
                                                                         720
gtgacagctt tgagactgtc agattctaag gagattaaag gaanggaaga ggtggtggtc
                                                                         780
agaataacct atgitaatca aaaataaact teettageat taagttaang gtetttaeet
                                                                         784
caan
      <210> 136
      <211> 768
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(768)
      <223> n = A, T, C or G
      <400> 136
                                                                           60
aenttgantg nacceaettg teegaetegg atceetagta aeggegeagt gtgetggaat
togocottig agoggoogco gggcaggtac tittititt cittitiac atotgattit
                                                                         120
aatgettegt taaetteaaa agggaaetgg gtagagttea gaaggtgage tgttgttttt
                                                                         180
ctaaacctct tcccaggaag gagacattga cacttgaatt tttgccacct ttttcctcat tagaaggaaa gtagaaagcc ttactgtagg atttttaaaa aaaaatccat ctcaccccat
                                                                         240
                                                                         300
                                                                         360
attqqtctta aataaqtata qactaattaa cctaagctac ctttaacaac gtagaattta
gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac ttttttcccc
                                                                         420
                                                                         480
acctctgccg cccaggctag agtatagtgg tgtgatcttg gcccactgca acctctgctt
cctaggttca agtgattctc ctgcctcagc ctcccaagta gctgggattg taagagtatg
                                                                         540
                                                                         600
ccaccacgec cagetacttt ttgtattttt agtagagaca gggtttcatc atgttggcca
ggatggtctc ttaactcctg ccctcaagtg atccaccaga gaggagatec teggeettec
                                                                         660
caagtgctgg gattataggc atgagccacc gtacccagcc tactttctaa ttaattaaaa
                                                                         720
aaaaannnnn nnnnaaaaaa acttnccaaa tgactgataa aaaactgc
                                                                         768
      <210> 137
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(777)
```

 $\langle 223 \rangle$ n = A,T,C or G

```
<400> 137
ttgqqcctct ngagcatgct cgacgqccgc catgtgatgg atatctgcag aattcgccct
                                                                          60
                                                                         120
tagogtggtc gcggccgagg taccatgctg acttcttggt atcttttaag gcctaatttt
cccttccttg agattactgt agtgtgttcc agctaatttc tatttggaaa cgagttggaa
                                                                         180
cagctgaaaa ctaggtatta ttgaaggcaa agtagcctca cgtcagtttt ttatcagctc
                                                                         240
atttgggaag ttttttttt ttttttttt ttttttaatt aattagaaag taggctgggt
                                                                         300
                                                                         360
acggtggetc atgcctataa tcccagcact tggggaggcc gaggatetec tctctggtgg
atcacttgag ggcaggagtt aagagaccat cctggccaac atgatgaaac cctgtctta ctaaaaatac aaaaagtagc tgggcgtggt ggcatactct tacaatccca gctacttggg
                                                                         420
                                                                         480
aggetgagge aggagaatea ettgaaceta ggaageagag gttgcagtgg geeaagatea
                                                                         540
caccactata ctctagcctg ggcggcagag gtggggaaaa aagtaggacc cctgtcctat
                                                                         600
                                                                         660
attcaggttt ttctcacata tatgaaccca tctaaattct acgttgttaa aggtagctta
ngttaattag totatactta tttaagacca atatggggtg agatggattt ttttttaaaa
                                                                         720
                                                                         777
atectacant aaggetttet acttteette taatgaggaa aaaagtggea aaaattt
      <210> 138
      <211> 950
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(950)
      <223> n = A, T, C or G
      <400> 138
nnnnnnnnn nnnnnnnnn nttnnnnnn nnnnnaaanc cnnnnnttna nnngnnaaac
cccattggna aanttaaccn ncccccaaaa gccctttngg ggtttaaccc ccgaaagcct
                                                                         120
                                                                         180
tccgggggna atccccaact ttaagttaaa acnggggccc cgggcccaag ttggttggcc
tttgggggaa aatttccgcc ccctttccga agccgggccc ggccccgggg gccaagggta
                                                                         240
ccatgggaat ggttaccttt tggcaagaac tggtcaaacc ctggaaattt tggtatttt
                                                                         300
gctttggaca ttggccctaa attaattaag tttcaaggtg gtcaggcttt acccactttt
                                                                         360
tggtctggca acatgcagaa gagacagtgc cctttttagt gtatcatatc aggaatcatc
                                                                         420
tracattggt ttgtgccatt actggtgcag tgactttcag ccacttgggt aaggtggagt
                                                                         480
tggccatatg totocactgc aaaattgctg attttccttt tgtaattaat aagtgtgtgt
                                                                         540
gaagattett tgagatgagg tatatatete actetteate aaactataag tittittaag
                                                                         600
taaaagaaaa tttattatga aactaaagga ataaaagaat gaccactcca taggcagaga
                                                                         660
aacgtcactt taaggttttg acgtcaattg atttttgtcc aaatcaataa ttactgcaat
                                                                         720
gattgaaaaa tgattattac taagtttgtt ttcattgtct caaggtctgc tgaactctgg
                                                                         780
                                                                         840
atccaggotg tgtcaacagg gtagtgtggt gcctcctgta cctcggccgc gaccacgcta
agggcgaatt ctgcagatat ccatcacact ggcggccgtt cgagcatgca tctagagggc
                                                                         900
                                                                         950
ccaattcgcc tatagtgagt cgtattacaa ttcactggcc cgcgttttag
      <210> 139
      <211> 779
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (779)
      \langle 223 \rangle n = A,T,C or G
ttgggcccnt agagetgete gageggeege catgtgatgg atatetgeag aattegeeet
                                                                          60
tagogtggte geggeegagg taeaggagge accaectae cetgttgaea cageetggat
                                                                         120
                                                                         180
ccagagttca gcagaccttg agacaatgaa aacaaactta gtaataatca tttttcaatc
attgcagtaa ttattgattt ggacaaaaat caattgacgt caaaacctta aagtgacgtt
                                                                         240
tetetgeeta tggagtggte attetttat teetttagtt teataataaa ttttettta
                                                                         300
cttaaaaaaa cttatagttt gatgaagagt gagatatata cctcatctca aagaatcttc
                                                                         360
```

```
acacacactt attaattaca aaaggaaaat cagcaatttt gcagtggaga catatggcca
                                                                     420
actocacctt acccaagtgg ctgaaagtca ctgcaccagt aatggcacaa accaatgtga
                                                                     480
                                                                     540
gatgatteet gatatgatae actaaaaagg geactgtete ttetgeatgt tgeagacaaa
aagtgggtaa getgacactg aaactaataa ttaggcaatg tcaagcaaat acaaattcag
                                                                     600
                                                                     660
qttqacaqtc tqcaaaqtaa catccatqta cctqcccggg cngnccgctc gaagggcgaa
ttccagcaca ctggcggccg ttactagtgg atccgagctc ggtaccaagc ttggcgtaat
                                                                     720
catgggcata getggtteet gtgtgaaatt ggtatneget cacaattnee acaacatag
                                                                     779
      <210> 140
      <211> 779
      <212> DNA
      <213> Homo Sapien
     <220>
     <221> misc feature
     <222> (1) ... (779)
     \langle 223 \rangle n = A,T,C or G
      <400> 140
gcccntagag catgctcgac ggccgccagt gtgatggata tctgcagaat tcgcccttag
                                                                      60
cgtggtcgcg gccgaggtac caggtgggct gacgcacatc ccctaaacat tctggatctc
                                                                     120
ttactcatcg tgaaaggcag acgetetaag tetaaagtet agggtaggag tttecattet
                                                                     180
ttggaaaacc aaagatggtt actcttctta atgaaactga gaagaaggta tctacagaaa
                                                                     240
                                                                     300
acactgaatt taaacaaatt atgaccttgt ttgttgaagc catcaaggac ccaagatata
                                                                     360
tcaaagaaca acatctctgt attggcctac aggttcagag tgttttgagg tctgtttaag
                                                                     420
cactaatagq attttaggcc agcatccagt cagaagagat agttcacaga ctcagagttg
gaaacagatt aaaaaaaaa agatgtcaac atagaaaatg atgatagagt ttagttaaaa
                                                                     480
                                                                     540
anattcacac ataaaattac agttaaaaaa attcacacat aaaatagagt gtttgcatag
caagacatta ttgcccttca gcctggcaga aaaacataaa ctcaggtgta tattttataa
                                                                     600
                                                                     660
taaacattgt attgaatget aagaatgata cactgttgaa catctcctga atggtttgcc
ttcttgtaaa tcataccaat tgtttagaca attgaaattc caagctcttt ctcttctccc
                                                                     720
                                                                     779
atataaaaac caacaqaaac anggaggctg ttagtagcaa gctcctcatg ggaaanggt
      <210> 141
      <211> 986
      <212> DNA
      <213> Homo Sapien
     <220>
      <221> misc_feature
      <222> (1) ... (986)
      <223> n = .A, T, C or G
      <400> 141
aanconnnn ntttatttgg gnaaacccaa ttgggnaaaa ttnaacccgn ccccccnaaa
                                                                      60
                                                                     120
ngcccttttn gggggttnaa ccccccggaa aaccetttcc ggggggaaat tccccaacct
ttaaagnttt aaaaacccgg gggccccggg cccccaaagt ttgggttggc cnttggggga
                                                                     180
                                                                     240
aaaatttttt cogggcccc cnttttaaag cccggttggg gtttccggcc ngggggcccc
                                                                     300
gggaaagggt tnaccetttt ttttttaact tttttnnntt teetttttn ntteetttt
tttcttttt ttttctttg gtntnnnttt ttttttcaat tttttggttt ttggttttg
                                                                     360
                                                                     420
gttatggttt ttttagaaca ggggtcccac tctgtcaccc aggctggagt gcagtggtgc
480
                                                                     540
gctaatttat qtaatttttg tagagacgag tttcaccacg ttacctaggc ttgtcttgaa
cacctgggct caagcaatct tccagcccca gcctcccaaa gtgctgggat tacaggtata
                                                                     600
                                                                     660
aaccacaatg cocceptttt tactetttac tgcatcettc ccateagtat taattectca
gaaatttagt acceptge tteatteagt ateagtaace etgeaatgat ttttacaaat
                                                                     720
                                                                     780
atctttttct agtgggtttt ttacttagag gaaagaactt tgtaatagct cttaatgttt
atatataaga gaagacagaa tggaaaatgt tttttgaagt caaatattgc atgatgtaaa
                                                                     840
                                                                     900
gaaaaaactt taaacttaaa tgagtanggt tgtcctgaat tacactggta actctctact
tetttattaa agaagttata gtaagatgee tttggntace tgattteagt gtacetgeee
                                                                     960
                                                                     986
gggccggccg ntcaaaaggg cgaant
```

```
<210> 142
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      <223> n = A,T,C or G
      <400> 142
gggcccgtan agcatgctcg agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                        60
tcgagcggcc gcccgggcag gtacactgaa atcaggtaac aaaggcatct tactataact
                                                                       120
totttaataa agaagtagag agttaccagt gtaattcagg acaacctact catttaagtt
                                                                       180
taaagttttt totttacate atgoaatatt tgacttcaaa aaacatttte cattetgtet
                                                                       240
                                                                       300
totottatat ataaacatta agagotatta caaagttott toototaagt aaaaaaccca
ctagaaaaag atatttgtaa aaatcattgc agggttactg atactgaatg aagcacaggg
                                                                       360
                                                                       420
gtactaaatt tctgaggaat taatactgat gggaaggatg cagtaaagag taaaaacggg
ggcattgtgg tttatacctg taatcccagc actttgggag gctggggctg gaagattgct
                                                                       480
                                                                       540
tgagcccagg tgttcaagac aagcctaggt aacgtggtga aactcgtctc tacaaaaatt
                                                                       600
cataaattag ctggtgtggt ggcctgcacc tctagtccca gctaggtggg aggtttcagt
gacetgtgat tgcaccactg cactecagee tgggtgacag agtgggacce tgtctaaaaa
                                                                       660
aaacataaca naacanaach naatgaaaaa aaaaacaaga aaaaagaata gaaaaagaaa
                                                                       720
                                                                       780
aaagtnaaaa gtncctcggn cgcgaccacg ctaagggcga attccagcac actgcggccn
      <210> 143
      <211> 794
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (794)
      \langle 223 \rangle n = A,T,C or G
      <400> 143
                                                                        60
nnnnnnnn nnnacnnttg actgataccc aacttggtac cgactcggac cactagtaac
ggccgccagt gtgctggaat tcgccctttc gagcggccgc ccgggcaggt acagaaagaa
                                                                       120
gagecaggat attettigit ticctaageg tagetigag caacattate tetectactg
                                                                       180
gcttctttga ggtatgagag tcatcattac atctgtgtgc tttgtcaagt tatatgtcac
                                                                       240
                                                                       300
aattccacct gtgggtagag aacaagcaca agagtcacat caactgtgtg ctgggccagg
gttatgtcac aatctteeet gagageatge accaggeaga agagteacat cacagggtte
                                                                       360
tcaaccagag atqttacaat cctctcctga aagcaggaca caggaaaaaag agtaagatca
                                                                       420
                                                                       480
cctgcatgct gggctcagat atatgtcaca agactcactg tgggcaaagt ccagaaggac
agacagaaca gctggttgct tgacccagca atatgtcaca atcttctcta tgggcagaat
                                                                       540
                                                                       600
gcaggcagaa gtagagggct tcatcttcca ggtgatggat taaaaaaata catcccaagg
ctctctgtgg gaaagggctc angcagaaac tttccaaccc ctangtgttt gcttcagtga
                                                                       660
tatgtcacaa ttaaccaaaa tatgcaggtt tcaagcaagt gagtnaagtc atatcaccta
                                                                       720
nggtgcttgg tccanaaatc tgncacaatc ttttttttt ttttggcatg cccagcngaa
                                                                       780
                                                                        794
ttgaaaagtc ncan
      <210> 144
      <211> 782
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(782)
      <223> n = A, T, C or G
      <400> 144
```

```
60
channeggee entagageat getegaegge egecagtgtg atggatatet geagaatteg
cccttagcgt ggtcgcggcc gaggtacaat cttggctcac tgcaacctcc acctcccggg
                                                                     120
                                                                     180
ttcaagcaat tctcctggct cagcetcctg agtgctggga ctacaggcat gcaccaccac
                                                                     240
toccacctaa tittgtatit tigatagaga cggggcttct ccatgtiggt caggctgttc
                                                                     300
tcaaactcct gacctcaggt gatttgactg tcttagcctc ccacagtgct gagcttatag
gcaggtgcca cgacacctgg ctggaatcat ttatttcaac atatctctgg gtccaacaac
                                                                     360
atggtgatgc aacttteetg catgggeect eccaeagaaa tactetaata catettttea
                                                                     420
480
                                                                     540
aagattgtga cagatttctg gaccaagcac ctaggtgata tgactttact cacttgcctg
aaacctqcat attttggtta ttgtgacata tcactgaagc aaacacctag gggttggaaa
                                                                     600
                                                                     660
gtttctgcct gagcccttcc acagagagcc ttgggatgta tttttttaat ccatcacctg
                                                                     720
ggagatgaaa ccctctactt ttgcctgcat tctgcccata gagaagattg tgacatattg
ctgggtcaag caacccaget ggtctgctgt ccttntggac tttgcccaca agtgagtttt
                                                                     780
                                                                     782
      <210> 145
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      <223> n = A, T, C or G
      <400> 145
annnttgacc tgatacccag cttggtaccg agctcggatc cactagtaac ggccgccagt
                                                                      60
gtgctggaat tcgccctttc gagcggccgc ccgggcaggt acttttttta cttttttt
                                                                     120
                                                                     180
ctttttttt ttggacatct gttttcactc ttaggctttt aaacaatagt tattgctttt
                                                                     240
atocototoa gattotaata actgagagog atggggotat attgaatoto tgtatgcact
                                                                     300
qaqaactqaq ctatgaaqaq gatcttatta aactgctggt ctgactttat ggattgacac
                                                                     360
tgttcctttc ttttattgtg aaaaaaaaaa aaaaccctga aagtcttggg aaccccctaa
agtettttgg gaateeteaa aaageatggg aagttaagta tttagetaca taaatgttgt
                                                                     420
aagatcatat cttatgtata gaagtaataa gaccatttgg aattactgga ctaattgaat
                                                                     480
                                                                     540
agttaaqqqt tctattcggg acaataaaat gtattttgaa agtgctgcta actattgatg
ctgacagtgt ttcactccta tgagtgaccc aaacatatta taaatatgtg gtaaagggaa
                                                                     600
tggagcttgt ggggttgagc agaatgttgg acttttttt tnnnnnnnn nttttttngc
                                                                     660
ttnctattng atngataacg atttcnggat tncctttaaa nncncngang gtttggaaac
                                                                     720
                                                                     780
tttggactgg attctggttc ccngaaacag gttcactggg nnccggggga cacttttaan
      <210> 146
      <211> 778
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(778)
      <223> n = A,T,C or G
      <400> 146
ttqqqcccnt aqaqcatqct cgacggccgc catgtgatgg atatctgcag aattcgccct
                                                                      60
                                                                     120
tagogtggtc gcggccgagg tacatggagg cctggactgt aaagagacta cggaaggggc
agcatgtgtg ttttgcttct cagattcatt gtcactcacg ttgcataaag tcctcagttg
                                                                     180
                                                                     240
tttttaagta attgttttac tatggatata ttaaacatac agaataaaaa agggaataaa
catacaattt ggcaaacccc ctactgagcc tttaaaaaata ttagaaggtt ggtattaaac
                                                                     300
caggtaactt acggatttgg aaaaaaaaaa aaaaagaaag cattgaatat ggctgggcgg
                                                                     360
ttctctgggg atccttgggc agacccagtt tgccccgatt tctcactgta gttttcaaga
                                                                     420
ataactgtag gaggcggtgg gagtgcagca teetgagata agggagacga gccagaacag
                                                                     480
                                                                     540
cgcgggcact gttccagccc ccctagaaat gggttgatct tcagtgcttc agctcagtgt
                                                                     600
gtcatgcttc acccacgatg taaaagccta ggatcggagg cttccccagg gttcgtcagc
                                                                     660
tgtggcacaa tagggcccgt tgcaaataag attctattcc tgtcagacag tttcgtgagt
```

```
ttgtggggga acactcaccc tagcttctgn tgnctcttca tgcctgtgtg ttcctaatca
                                                                          720
                                                                          778
actititing graactiggt gittigaaag tgtcaccagc acacaatgga acctgton
      <210> 147
      <211> 784
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(784)
      <223> n = A, T, C or G
      <400> 147
                                                                           60
acnntatgac ctgattacgc caacttggta ccgactcgga ccactagtaa cggccgccag
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg tactttttt ttttttttt
                                                                          120
                                                                          180
tttttttttg ggattgaatc aacatgcttt aataggaaaa gatgtatggg ctatatatgn
atcaatctgg ngaanceteg ntetaataaa gggtettttt ettttetatg atacacacag
                                                                          240
ncacgetgat aatatgenaa tgaacatttt cetttatgne tetneanata atggttattg
                                                                          300
gctgaggnaa attaaattcc caccanggnt tgctgncagt attttaacac ccacattagt
                                                                          360
                                                                          420
atatgentne agggteataa cecectaaaa tecatnatge aacettatta atetggettg
ggantcongg traatgettg gatttantte etgattaeae tnentngaaa agtgagaeat ttgncattee caactttggg aaaaccaact tatatteaae entntnaatg aaggeeatet
                                                                          480
                                                                          540
tgatggnotc aacactaatt tttatgatgc aaatttatac acngattttt gtaaagggca
                                                                          600
aagttttaaa agcgtattta acttgatggt ttctatcagc attaatnaaa tggncatgaa
                                                                          660
taggcattaa aaacagttgc cagtgatnat ctgcatgaaa ggaaaaagaa ccctgcaaat
                                                                          720
                                                                          780
ggctattgaa nttggaaata ttggntttga natgtaagaa aatntttaga aagctcncnc
                                                                          784
tgng
      <210> 148
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(775)
      \langle 223 \rangle n = A,T,C or G
      <400> 148
                                                                           60
qqqcccntan agcatgctcg acggccgcca gtgtgatgga tatctgcaga attcgccctt
agogtggtog oggoogaggt acaaagcact gtttaaaacc agtocaagat acttaatcca
                                                                          120
aactgtatca tgattettea ttagaaatet agacaccact catggtggtt tettacactt
                                                                          180
taaaaaagttg aggcattttc agtgtgagca ttctgaatat ctcttacata tcaaaaaacaa
                                                                          240
tacttccaac tcaatagcca tttgcagggt tctttttcct tcatgcagat tatcactggc
                                                                          300
aactgttttt aatgactatt catgaccatt ttatttatgc tgatagaaaa catcaagtta
                                                                          360
aatacgettt taaaactttg teetttacaa aaateagtgt ataaatttge ateataaaaa
                                                                          420
ttagtgttga gaccatcaag atggccttca tttatatggt tgtatattag ttggttttcc
                                                                          480
cagagttggg aatggcagat gtctcacttt tctatgtagt gtaatcagga aataaatcca
                                                                          540
                                                                          600
agcactaaac aggaatccca agacagatta ataaggttgc atgatggatt ttagggggtt
atgaccetgg acgeatatac taatgtgggt gttaaaatac tgacagcaag ccctggtggg
                                                                          660
aattaattta cctcagacaa taaacattat ctggagagac ataaaggaaa atgttcattt
                                                                          720
gcatattatc agcgtggctg ggtgtatcat agaaaaagaa aaagaacctt tttan
                                                                          775
      <210> 149
      <211> 783
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(783)
```

```
<223> n = A,T,C or G
```

```
<400> 149
acnntatgac ctgatacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                       60
                                                                      120
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacccgatta aaccagagca
aaaactacct totgoaggto agggagotaa tgacatggoa ttggocaaac gttocogcag
                                                                      180
togaactgot acagaatgtg acgttogtat gagcaagtot aagtcagaca atcagatcag
                                                                      240
                                                                      300
tgacagaget getttggagg ccaaagtgaa ggatettete acgetggeaa aaaccaaaga
cgtagaaatt ttacatttga gaaatgaact gcgagacatg cgtgcccagc tgggcattaa
                                                                      360
tgaggatcat totgagggtg atgaaaaato tgagaaggaa actattatgg otcaccagco
                                                                      420
                                                                      480
gactgatgtg gagtccactt tattgcagtt gcaggaacag aatactgcca tccgtgaaga
                                                                      540
actcaaccag ctgaaaaatg aaaacagaat gttaaaggac aggttgaatg cattgggctt
                                                                       600
ttccctagag cagaggttag acaattctga aaaactgttt ggctatcagt ccctgagccc
agaaatcacc cctggtaacc agagcgatgg aggaggaact ctgacttett cagtggaang
                                                                      660
ctctgcccct ggctcantgg gaggatctct tgagtcagga tgaaaataca ctaatggacc
                                                                       720
                                                                       780
attagcacag tacttcatgg caatttagac agtgagtgca atgaggtcta ccagccctt
                                                                       783
      <210> 150
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(771)
      <223> n = A,T,C or G
gggcccntan agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                        60
                                                                       120
cgagcggccg cccgggcagg tactgtgttg gttctcttcc atctggtgta tccgttcagt
caggcaagcc acggacactt cactggcatt cccgctgctc cccttccggg agcgctctat
                                                                       180
                                                                       240
gctggggatg ccttccgact ctgaggagga tggtgcatcc agcgcatcat cgctcgatgt
gaggggctgg tagacctcac tgcactcact gtctaaattg tccatggagt tactgtgctg
                                                                       300
atggtccatt agtgtatttt catcctgact caagagatcc tccactgagc caggggcaga
                                                                       360
geettecact gaagaagtea gagtteetee tecategete tggttaccag gggtgattte
                                                                       420
                                                                       480
tgggctcagg gactgatagc caaacagttt ttcagaattg tctaacctct gctctaggga
aaagcccaat gcattcaacc tgtcctttaa cattctgttt tcatttttca gctggttgag
                                                                       540
ttcttcacgg atggcagtat tctgttcctg caactgcaat aaagtggact ccacatcaag
                                                                       600
teggetggtg agecataata gttteettet cagattttte atcaccetca gaatgateet
                                                                       660
                                                                       720
cattaatgcc cagctgggca cgcatgtctc gcagttcatt tctcaaatgt aaaatttcta
cgtctttggt ttttggcagc gtgagaagat ccttncttgg nctcnaagcn g
                                                                       771
      <210> 151
      <211> 778
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(778)
      <223> n = A,T,C or G
acnntatgac ctgatacgcc agcttggtac cgactcggat ccactagtaa cggccgccag
                                                                        60
tgtgctggaa ttcgcccttt gagcggccgc ccgggcaggt acttttttt ttctttttt
                                                                       120
acatctgatt ttaatgcttc gttaacttca aaaggaactg gtagagttca gaaggtgagc
                                                                       180
                                                                       240
tgttgttttt ctaaacctct tcccaggaag gagacattga cacttgaatt tttgccacct
ttttcctcat tagaaggaaa gtagaaagcc ttactgtagg atttttaaaa aaaaatccat
                                                                       300
                                                                       360
ctcaccccat attggtctta aataagtata gactaattaa cctaagctac ctttaacaac
gtagaattta gatgggttca tatatgtgag aaaaacctga atataggaca ggggtcctac
                                                                       420
                                                                       480
ttttttcccc acctctgccg cccaggctag agtatagtgg tgtgatcttg gcccactgca
```

```
acctetgett cetaggttca agtgattete etgeeteage etcecaagta getgggattg
                                                                       540
taagagtatg ccaccacgcc cagctacttt ttgtattttt agtagagaca gggtttcatc
                                                                       600
atgttggcca ggatggtctc ttaactcctg ccctcaaagt gatecaccag agaggagatc
                                                                       660
ctcggcctnc ccaagtgctg ggattatagg catgagccac cgtacccagc ctactttcta
                                                                       720
attaattaaa aaaaaannnn nnnnaaaaaa aacttnccaa atgagctgat aaaaacng
                                                                       778
      <210> 152
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(772)
      <223> n = A,T,C or G
      <400> 152
gggcccntag agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                        60
cgtggtcgcg gccgaggtac catgctgact tcitggtatc ttttaaggcc taattttccc
                                                                       120
ttccttgaga ttactgtagt gtgttccagc taatttctat ttggaaacga gttggaacag
                                                                       180
ctgaaaacta ggtattattg aaggcaaagt agcctcacgt cagtttttta tcagctcatt
                                                                       240
tgggaagttt tttttttt tttttttt tttaattaat tagaaagtag gctgggtacg
                                                                       300
gtggctcatg cctataatcc cagcacttgg ggaggccgag gatctcctct ctggtggatc
                                                                       360
acttgagggc aggagttaag agaccatcct ggccaacatg atgaaaccct gtctctacta
                                                                       420
aaaatacaaa aagtagctgg gcgtggtggc atactcttac aatcccagct acttgggagg
                                                                       480
ctgaggcagg agaatcactt gaacctagga agcagaggtt gcagtgggcc aagatcacac
                                                                       540
cactatactc tagcctgggc ggcagaggtg gggaaaaaag taggacccct gtcctatatt
                                                                       600
caggittitc tcacatatat gaacccatct aaattctacg tigitaaagg tagcitaagt
                                                                       660
taattagtot ataottattt aagaccaata tggggtgaga tggattttt tttaaaaaat
                                                                       720
cctacagtaa ggntttctac tttccttcta atgaggaaaa angnggcaaa at
      <210> 153
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(780)
      <223> n = A,T,C or G
      <400> 153
acnntatgae ntgaatacgn ccaagettgg taccgagete ggatecaeta gtaacggeeg
ccagtgtgct ggaattcgcc cttagcgtgg tcgcggccga ggtacttttt ttttttttt
                                                                       120
ttttttttt tttagttaaa gaatgettta ttaatacaaa tacacacaaa ctctgaagca
                                                                       180
ctaagaaatt taaatatcta tgtcacagca aacaggtggc aattcaacat ccagggtcga
                                                                       240
cagaatgctt gaaggagact gcaacagatt ggattcccat ggtggagagg gcatnttcac
                                                                       300
aggtgaaggg gggcccagct gaaacagctt ttcaagctct ctctcctcgt caaggatcat
                                                                       360
gagaggcact ccactcaagg ggaggtgegc aatctggtgc tcttcaggca ggtcaaaact
                                                                       420
ctcaaagtct agaggattga agggaaagaa tttttctatt tctggatagg catcatctqa
                                                                       480
ggcaggaaca gagctttttg ctttaacagt cttctcagtc atctttttgg cagaaaagct
                                                                       540
tggctgtttt tgtttgaggg gtcccttggt ctttacagac ttttctgtag ctctgttgac
                                                                       600
agttcccaaa gcctttctag tagctttagg taaggctggt ggggcatcga acgttttgcc
                                                                       660
aaaacgtggt gttgaaactt gagatcteec atctaanget ttgattgaan gtecagacee
                                                                       720
cagetteage ceateettag caaccacaen ggtgeetggg tetneatttt eettatnang
                                                                       780
      <210> 154
      <211> 770
      <212> DNA
      <213> Homo Sapien
      <220>
```

```
<221> misc_feature
      <222> (1) ... (770)
       \langle 223 \rangle n = A,T,C or G
       <400> 154
gncctgtnna gctgctcgag cggccgccat gtgatggata tctgcagaat tcgccctttc
                                                                          120
gageggeege cegggeaggt acgeggggac egeggeetea gatgaatgeg getgttaaga
cctgcaataa tccagaatgg ctactctgat ctatgttgat aaggaaaatg gagaaccagg
                                                                          180
cacccgtgtg gttgctaagg atgggctgaa gctggggtct ggaccttcaa tcaaagcctt
                                                                          240
agatgggaga totcaagttt caacaccacg ttttggcaaa acgttcgatg ccccaccagc
                                                                          300
                                                                          360
cttacctaaa gctactagaa aggctttggg aactgtcaac agagctacag aaaagtctgt
aaagaccaag ggacccctca aacaaaaaca gccaagcttt tctgccaaaa agatgactga
                                                                          420
gaagactgtt aaagcaaaaa gctctgttcc tgcctcagat gatgcctatc cagaaataga
                                                                          480
aaaattottt coottoaato ototagaott tgagagtttt gacotgootg aagagcacca
                                                                          540
                                                                          600
gattgcgcac ctccccttga gtggagtgcc tctcatgatc cttgacgagg agagagagct
tgaaaagctg tttcagctgg gcccccttc acctgtgaag atgccctctt caccatggga atccaatctg gtgcagtctc ttcaagcatt ctgtcgaccc tggatgttga attgccacct
                                                                          660
                                                                          720
gtttgctgtg acatagatat ttaaatttct tagtgcttca gagtttgngg
                                                                          770
       <210> 155
       <211> 767
       <212> DNA
       <213> Homo Sapien
      <220>
       <221> misc_feature
       <222> (1)...(767)
      \langle 223 \rangle n = A,T,C or G
      <400> 155
acattatgac tgatacgcca gcttggtacc gactcggatc cactagtaac ggccgccagt
                                                                           60
gtgctggaat tegecettag egtggtegeg geegaggtae gegggeeege tggataaetg
                                                                          120
ccctgggaca caqcagggg aagccgcctg cagactgaac ctcactgacc caggtggaaa
                                                                          180
                                                                          240
tegttaggte atttactget aageagecag atgaactete cetgeaggtg getgaegteg
tecteateta teaaegtgte agegatgget ggtatgaggg ggaaegaeta egagatggag
                                                                          300
aaagaggctg gtttcctatg gaatgtgcca aggagataac atgtcaagct acaattgata
                                                                          360
agaatgtgga gagaatggga cgcttgctag gactggagac caacgtgtag tctctcagat
                                                                          420
                                                                          480
ggtcttttgt tactgcaaga tttgcacgac acttaccggg ctggttggtt ctgggctagt
tttattgnta attttgtcac agcetattta attaaaagaa cgaaaacact tgcctttaag
                                                                          540
cttgccaggt tgttctgctc tctcatgaga agagcttgga tacagtgagt ttgcacagct
                                                                          600
cagtttttac ctaaccacac acttgcagac ctnctgaggt acctgcccgg gcggccgctc
                                                                          660
                                                                          720
gaaanggega attetgeaga tateeateae aettggeggn egetegaaea tgeatetaga
nggeccaatt egnectatag tgagtegtát tacaatteae tggnege
                                                                          767
      <210> 156
      <211> 827
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(827)
      <223> n = A, T, C or G
      <400> 156
                                                                           60
attgggcccc tagatgcatg ctcgacggcc gccagtgtga tggatatctg cagaattcgc
cetttegage ggeegeeegg geaggtaeet eaggaggtet geaagtgtgt ggttaggtaa
                                                                          120
                                                                          180
aaactgaget gtgcaaacte actgtateea agetettete atgagagage agaacaacet
                                                                          240
ggcaagctta aaggcaagtg ttttcgttct tttaattaaa taggctgtga caaaattaac
aataaaacta gcccagaacc aaccagcccg gtaagtgtcg tgcaaatctt gcagtaacaa
                                                                          300
aagaccatct gagagactac acgttggtct ccagtcctag caagcgtccc attctctcca
                                                                          360
cattettate aattgtaget tgacatgtta teteettgge acatteeata ggaaaceage
                                                                          420
```

```
480
ctetttetee atetegtagt egtteeceet cataceagee attggetgae aenttgattg
gatgaaggcc ancttanncc nactngcagg gagaagtcaa tttgnttgnt taaccnntna
                                                                       540
                                                                       600
atggancett accnantine acctggggte aagtgagggt teaagtetge angeggette
ccgctgctgt ggtcccaagg gcaagttatn cagcggggcc cgcgttacct tgggccgggg
                                                                       660
                                                                       720
accaacgeet taangggeeg aaatttecaa geacaettgg eeggeeegtt acctagtggg
atnecgaact tegggtacce aaageettgg gegttaatea atgggteaat aggettggtt
                                                                       780
                                                                        827
teetggtgtg naaaattggt aateeggtte acaantteec cacaaca
      <210> 157
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (818)
      <223> n = A,T,C \text{ or } G
      <400> 157
                                                                         60
aacactatga cotgatacgo canottggta cognotogga tooctagtaa oggoogocag
tgtgctggaa ttcgcccttt cgagcggccg ccgggcaggt acataatctg gaaatttatg
                                                                        120
ttacaggtat gcatatttgt atatgaaaaa tattaactga gaaattactg agcttcttag
                                                                        180
                                                                        240
caaaaaatat aattatttca gagatatgat acagtttaat atctgccttc ctcaaaaagt
cagaaaataa aaagttttaa attgcatata ttttcatttc ttacatatgt cagaacactc
                                                                        300
agaattttta ataaaatgtt ttaaaacata attataagtt gttactttta tttctatggt
                                                                        360
                                                                        420
tagtggaacc cacagggtcc tgtatctgat taaatggagg atatattagg agaatttttt
agaagaatga cacatgtgac ataccaccat atttgcaaga aaatataact tgatagtaga
                                                                        480
                                                                        540
gtaagttagc tgctttatat gatgaattaa aggcactagc tcttagaaaa aaaaggatta
aaatgetgae tteagtaata atgtaaggag etetgetett taacatttee taattaggta
                                                                        600
                                                                        660
taaactatga tggaagggaa aggtggaatg gaagtntcta cntnttacca ttggctttcn
ttcatgaaat tggcagnnag cctnccattt cnnnaggnet ttaatnaaaa antttttccc
                                                                        720
                                                                        780
aacttttnct tttcnaaaaa nttnttnncc nnatngnnaa ctggnggtna aaacccggct
                                                                        B18
tttttggggg gaaancctac ctggntnggg naaaaant
      <210> 158
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (772)
      <223> n = A, T, C or G
      <400> 158
ntgggcccnt nnagcatgct cgacggccgc cagtgtgatg gatatctgca gaattcgccc
ttagegtggt egeggeegag gtaetteaac caccecteet acaaaactet ataccettgt
                                                                        120
catattaaaa ttgtatgtta tgccaggctt ccctaataca acaaaatctc tgaataaaac
                                                                        180
ctattaaata tacaatttot atcaacatgo otgocacaca tgottaataa ttgottagtg
                                                                        240
aatacaagat taatgcatga gtgcctaagt tacttcatct agtataacaa atgacaatat
                                                                        300
ctcatttgtt tcccgaagta tccttattcc attcaagctc tgaagaaagt attaatgata
                                                                        360
                                                                        420
ttogtootta agtaattttt totgoattoa aatotoacoa ttoaaatgat tttocaacag
tagtttcccc aaaagcagtt tacacagtta catttgttat aatttttgaa agaaaagttg
                                                                        480
ggaaaatttt attaagactc tgaatgtagc ttactgccaa ttcatgaaga aagcaatgta
                                                                        540
atacgtagat acttcattcc acctttccct tcatcatagt ttataactaa ttaggaaatg
                                                                         600
ttaaagagca gagctcctta cattattact gaagtcagca tttatacttt tttttctaag
                                                                         660
agctagtgcc tttaattcat catataaagc agctaactta ctctactatc aagttatatt
                                                                         720
ttcttgcaaa tatggtggta tgtcacatgt gtcattcttc taaaaaaattc tg
                                                                         772
       <210> 159
       <211> 1024
```

<212> DNA

```
<213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(1024)
      <223> n = A, T, C or G
      <400> 159
ttgggnaaaa ttttaaaccg gccccccaa angncccttt ttgggggntt aaaccccccg
                                                                        60
gnaangcccc tttccggggg gggaaattcc ccccaaccct ttaaaggttt aaaaacccgg
                                                                       120
                                                                       180
gggceneegg geceecaaa ggtttgggtt tgggeeettt ggggggaaaa aattttttee
gggcccccc ntttttaaag gccgggttgg ggggtttccc gggcccgggg gccccccgga
                                                                       240
                                                                       300
aaaggggttt aaccecttn aatttttttn gggtttttcc cccccaaatn gggtttccaa
ttttttttt tttaaaaaac ccaaaanggg aaaaaaaggg gttggcccaa aatttaaggg
                                                                       360
cctttctttc aaaagggttt cctttgggaa aaaaaaacct tgggttgggg gaaaaggttt
                                                                       420
ncccaaaaat ttaaacctgg gaaaaccttc tttgggnaac ccactttaaa aatttaaant
                                                                       480
                                                                       540
taaanttaaa tttaaattta aanttaagga atgggnttgg aaaaaaaaag gaatattccn
ttaatttggc cttaattttt taatttgntn atttgactgg tnatgnnttt actttnaaa
                                                                       600
aacntnotnn ccaaaaacca attttacntg gnonngtggg atttaccntn ttcnattacc
                                                                       660
                                                                       720
ngqqaqttaa cccaactnga acntttngga gggnccagtc ctccataggg acctccntca
ntintgatho caactgcaag ticagggaaa tictcacate eccettggge natatatete
                                                                       780
tttaaaagen ceteacagea eteactgaan tetattatat tatagatang gintattatg
                                                                       840
ggaaangggt nacanntcaa natnncccaa cgcggggana cacanngngc agngcccgat
                                                                       900
                                                                       960
gathttccna nacacagant ttggtgttct ctggagncgt ttcccccnta gnaaaatgtt
                                                                      1020
gacacntgga cagagttttt acccccaggg gaacgtnaat caatctttgg aagtttcaaa
                                                                      1024
      <210> 160
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(771)
      <223> n = A,T,C or G
      <400> 160
gggcctctnn agcatgctcg agcggccgcc agtgtgatgg atatctgcag aattcgccct
                                                                        60
ttcgagegge egecegggea ggtactgtaa gttattttet teettatete ecaatgacae
                                                                       120
tqttttctac atqaaaaata ccattttggc tttatcaaca tgttattaat tcataatatg
                                                                       180
                                                                       240
agagatotat cagcactatt tgtaaaaaata ttcaattaaa aaaattaaga tgatttatag
ttgtgtggta aagaatttga ccttacccaa aggaggtcag gcttttgccc tcagccttaa
                                                                       300
                                                                       360
ggagataatc tigtcatacc caataaaagt gttattttaa agtgaggctg actacacctg
ataatccagc ttgagggaca gttatgccag tttgaccaac tagatgattt agggagcttt
                                                                       420
ctctcccaac ttcaaagetg tgatgaatca aacaggtaat taatcgatca tgcttatgta
                                                                       480
atgaageett gattgaaact teaaagattg attgaegtte ettggttggt aatactetgt
                                                                       540
catgtgtcaa ttctagaagg gtaatacgtc ctgaggataa cagaagctct gtgtttggaa
                                                                       600
tcatcctgga ctctgcactt tgnttctcct gctttggctg attttgatct gtaaccttta
                                                                       660
cctataataa accataacta taatataata gatttcagtg agtgctgtga ngctttctag
                                                                       720
                                                                       771
tgatttattg aacctaaggg tggatgtgag aatttnctga acttgcagtt g
      <210> 161
     <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (771)
      \langle 223 \rangle n = A,T,C or G
```

```
<400> 161
acnottgaco tgatogocag ottggtacog actoggacoo tagtaacggo ogocagtgtg
                                                                        60
                                                                       120
ctggaattcg cccttagcgt ggtcgcggcc cgaggtacag aatttattat gaaatagctt
                                                                       180
aatggcaagt ggtaatttag aagaattaag ttatcagata ggagatatat taaaatattt
aaaaattgga tatattottg aagoootttt acacaagtaa tttotataat ttgattgtaa
                                                                       240
tgaaagtata atatacettg ttactattat cagattaatt tttgaaagta gaatteetta
                                                                       300
                                                                       360
atcaagccaa ggttatgctg ctttataaga aattaatcag gtagtttaac actagagctc
                                                                       420
attagccaac ctgtatgtag cacaaaataa tcatctctga taaataccta taaatatatt
ttattcatac ttttaaatat tttacaattc aaataaaaac cttatatgta gacaatctgg
                                                                       480
                                                                       540
qctaaatttc catgtatgtt ttgaaaaata atgttagcat gaatagattc atatttaaat
                                                                       600
atgattttaa atactcttaa tagaggagac ataagaaata tttacataaa agctaagtag
catgatacag ctcatggtta ttttcctcat aggaaaacaa ttacttgatt tttttttgca
                                                                       660
taggattaaa gactgagtat cttttctaca ttcttttaac tttctaangg gcacttctca
                                                                       720
                                                                       771
aaacacagac caggtagtaa atctncactg ntctaaggtc tcaccccact t
      <210> 162 ·
      <211> 768
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(768)
      \langle 223 \rangle n = A,T,C or G
      <400> 162
gggcccctnn agctgctcgn cggccgccag tgtgatggat atctgcagaa ttcgccctta
                                                                         60
                                                                        120
geggeegeee gggeaggtae tacaaaaada gaataatttt gaagttttag aataaatgta
atatatttac tataattota aatgtttaaa tgottttota aaaatgoaaa actatgatgt
                                                                        180
                                                                        240
ttagttgctt tattttacct ctatgtgatt atttttctta attgttattt tttataatca
ttatttttct gaaccattct tctggcctca gaagtaggac tgaattctac tattgctagg
                                                                        300
                                                                        360
tgtgagaaag tggtggtgag aaccttagag cagtggagat ttactacctg gtctgtgttt
                                                                        420
tgagaagtgc cccttagaaa gttaaaagaa tgtagaaaag atactcagtc ttaatcctat
                                                                        480
gcaaaaaaaa atcaagtaat tgttttccta tgaggaaaat aaccatgagc tgtatcatgc
tacttagett ttatgtaaat atttettatg teteetetat taagagtatt taaaatcata
                                                                        540
                                                                        600
tttaaatatg aatctattca tgctaacatt atttttcaaa acatacatgg aaatttagcc
cagattgtct acatataagg tttttatttg aattgtaaaa tatttaaaag tatgaataaa
                                                                        660
                                                                        720
atatattat aggtatttat cagagatgat tattttgtgc tacatacagg ttgggctaat
                                                                        768
gagetetagt ggtaaactae etgataattt ettataaage ageatace
      <210> 163
      <211> 776
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (776)
      \langle 223 \rangle n = A,T,C or G
      <400> 163
nantatgace tgatacgeca acttggtace gacteggate cactagtaac ggeegecagt
                                                                         60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac tcttccgcag agggaaggct
                                                                        120
gtagaagtot ttgcaagott catacagaga aatacaaaag gtgtgatgcc attaactggt
                                                                        180
                                                                        240
cctttctaaa gcattaggaa tttagtgaaa ctctcaaaca caaaactgaa aagccatttg
aacaaatctc atatacttgt agataagctt ttttttattt aaagcataca aattcaaatc
                                                                        300
                                                                        360
tttcaagcag aaaattcagt caagtgagat ccattggtgg tttgagttca aagtcagtga
gcaaatggaa atcattgcgg catctctctc atttccctag tggacattag accactcaaa
                                                                        420
atgtgtcaca taatttacag coccttggta gtaattgaat atacacgttg agagtgcact
                                                                        480
ggcagaacac ttaagaaaga ttgaatgcag gaggaccagc ttacgttatt tttggctcta
                                                                        540
                                                                        600
ctctggtttt tgcttttaat gttttttctt gagattaatt tcaattgggt tgttccatcc
tattcaaaca aatgetttga gagaagagat gaacagcage atcaaataaa attgtgatat
                                                                        660
```

```
720
ttagtttnag agacatcang tgttgtaatc aaataagaca gaanggccaa gttaaaatct
                                                                       776
gtgattngca taaatgaatt taactgttag aatagcanaa ttgagaggtn gattan
      <210> 164
      <211> 773
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (773)
      <223> n = A,T,C or G
      <400> 164
cgggcctcta gatgctgctc gacggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                         60
                                                                        120
togagogoog coogggoagg tacacagtgg ataccacata ctogototga ggaagaagga
ggaggagaaa gaggagaagg aaggaaattt tcaaatgaca atttctatca ggactcattt
                                                                        180
                                                                       240
tectattata agtteagaat aettggaegt etttataaaa teaagttgaa atetetaeta
ttttqatctq tattctctta aatattaaag gttataccta gggagattcc atgttgactg
                                                                        300
                                                                       360
gcaaacaaag cataccattt taagaataac tottoataaa atatgtgtot aagaattaaa
                                                                        420
agtgtctagt aacagataca caaaagagag atttagaata attaatattt aaagacagat
                                                                        480
aattttaatg tttcacactt ttaactacaa aattctttgt tttcctaaat attagcaaaa
atgttatata ttaaaataaa tottgaaaat otoaccotac atttagataa tagttcaaaa
                                                                        540
gtcatattgc taatctacct ctcaattctg ctattcttac agcttaaatt catttatggc
                                                                        600
aaatcacaga ttttactttg teettetgte ttatttgatt acaacacetg atgtetetga
                                                                        660
aactaaatat ccaatttatt tgatgctgct gttcatctct tctctcaaag cattngtttg
                                                                        720
                                                                        773
aatangatgg aacaacccaa ttgaaattaa tctcaaggaa aaacattaaa ant
      <210> 165
      <211> 783
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (783)
      \langle 223 \rangle n = A,T,C or G
      <400> 165
tnnnnacac tatgacetga ttacgecanc ttggtacega eteggateca etagtaaegg
                                                                         60
cogcoagtgt gotggaatto goodttagog tggtogoggo cgaggtacag taggaaaata
                                                                        120
agaataacaa cgggcaaaat ctttttagaa catttatgct ttatctgttt tagcttctaa
                                                                        180
240
tccaaaattt taatgaaaac tttacggttg agagaaatag gtaaataaaa aaacttccta aaattctaaa gacaattgtt gaataaaatt taagtgaatg agtttgtgct tcatatttaa
                                                                        300
                                                                        360
cttttaactt tccaataggc tttattaaat ggaaaactga aatttacaaa gtcttagagt
                                                                        420
                                                                        480
agaagcattt ttatcetgge tagggattet ctaagagaac cagtagcacc aagatgcact
ggaacagtgc aacgagagag ttcatgcctt agggtttaga agcatacaag caaagggaat
                                                                        540
ggtgcccact tcttactaga aaaatttcac aggctggagt ctgggcggag gagcctggga
                                                                        600
tgacagtaga agtgtgcagg aagcactaag totagcotgt acctgcccgg gcggccgctc
                                                                        660
                                                                        720
gaaaggcgaa ttctgcagat atncatcaca ctggccggcc gntcgagcat gcatntagag
ggcccaattc gcctatagtg ancgtattac aattcactgg ccgcgtttta caacgtnnng
                                                                        780
                                                                        783
cnn
      <210> 166
      <211> 775
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(775)
```

 $\langle 223 \rangle$ n = A,T,C or G

```
<400> 166
attgggcctc tnnagcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc
                                                                        60
cettegageg geogeologg caggtacagg ctagaettag tgetteetge acaettetae
                                                                       120
                                                                       180
tgtcatccca ggctcctccg cccagactcc agcctgtgaa atttttctag taagaagtgg
geaccattee ettigetigt atgettetaa accetaagge atgaactete tegitgeact
                                                                       240
gttccagtgc atcttggtgc tactggttct cttagagaat ccctagccag gataaaaatg
                                                                       300
cttctactct aagactttgt aaatttcagt tttccattta ataaagccta ttggaaagtt
                                                                       360
aaaagttaaa tatgaagcac aaactcattc acttaaattt tattcaacaa ttgtctttag
                                                                       420
aattttagga agttttttta tttacctatt tctctcaacc gtaaagtttt cattaaaatt
                                                                       480
ttggagcaac agggaaaatt aaattctgct atactcatga taattattca tccttcagga
                                                                       540
ttgttttaga agctaaaaca gataaagcat aaatgttcta aaaagatttt gcccgttgtt
                                                                       600
                                                                       660
attettattt teetaetgna eeteggeege gaccaegeta agggegaatt eeageacaet
                                                                       720
ggcggccgtt actagtggat ccgagctcgg taccaanctt ggcgtaatca tggtcatagc
tggttcctgt gtgaaantgt atccgntcac aattcacaca acatacganc cggag
                                                                       775
      <210> 167
      <211> 797
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (797)
      <223> n = A, T, C or G
      <400> 167
ttgnaacnat tntgacctga ttacgccaac ttggtaccga geteggatcc actagtaacg
                                                                        60
geegeeagtg tgetggaatt egeeettage gtggtegegg cegaggtact tteagaaggt
                                                                       120
aaatcagtag atcacccatg tgtatctgca ccttctcaac tgagagaaga accacagttg
                                                                       180
asacctgctt ttatcatttt caagatggtt atttgtagaa ggcgaggaac caattatgct
                                                                       240
                                                                       300
tgtattcata agtattactc taaatgtttt gtttttgtaa ttctgactaa gaccttttaa
ccatggttag ttgctagtac ccttccttgt ccgaaggagc tgaccagtat tgatgagaga
                                                                       360
gtccaggcag ctcctgaagt tcagctggta gtttgttctc tgaacatttg gtctcttgaa
                                                                       420
ggcacagtat atctgggget tetteettta cecaatetaa teetttette ttaatecagg
                                                                       480
ctcgaagccc atncacattc caagagcaga tettgagtgt ggcaggtttg ccactgggtg
                                                                       540
                                                                       600
aggttttctg atctgggggg tcctcataca gggctggggc cctntcctgc tgcctctttg
teattttett tgegggeegt ettactette ttggeetetg gettetgtee tgageteate
                                                                       660
cccgtctttc ggccaccngt tccccttttt tacacgcctt cggcatttcc cgttaccgaa
                                                                       720
egecettigg geagetgiae etgeceengg eggeegiteg aaaaggeena attetigeag
                                                                       780
aatttccatc ncaccnn
                                                                       797
      <210> 168
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      <223> n = A,T,C or G
      <400> 168
acantatgac ctgatacgcc aacttggtac cgactcggat ccactagtaa cggccgccag
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta ctccggtcgg tgtcagcagc
                                                                       120
acgoggcatt gaacattgca atgtggagcc caaaccacag aaaatggggt gaaattggcc
                                                                       180
aactttctat taacttatgt tggcaatttt gccaccaaca gtaagctggc ccttctaata
                                                                       240
aaagaaaatt gaaaggtttc tcactaaacg gaattaagta gtggagtcaa gagactccca
                                                                       300
ggcctcageg tacetgeeeg ggeggeeget egaaagggeg aattetgeag atatecatea
                                                                       360
cactggcggc cgctcgagca tgcatctaga gggcccaatt cgccctatag tgagtcgtat
                                                                       420
tacaattcac tggccgtcgt tttacaacgt cgtgactggg aaaaccctgg cgttacccaa
                                                                       480
```

```
540
cttaatcgcc ttgcagcaca tccccctttc gccagctggc gtaatagcga agaggcccgc
                                                                       600
accgategee etteceaaca gttgegeage etgaatggeg aatggaegeg eeetgtaaeg
                                                                       660
gegeattaag egeggegggt gtggttgtta egegeagegt gaceegtaca ettgecageg
                                                                       720
coctaneged egetnetite getiteties etitetitet ingeaegite geeggetiit
cccgtcaagc tctaaatcgg gggctccttt tanggttccg atttantgct ttacngnacn
                                                                       780
      <210> 169
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(771)
      <223> n = A, T, C or G
      <400> 169
gggccnetng agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                       120
cgagcggccg cccgggcagg tacgctgagg cctgggagtc tcttgactcc actacttaat
teegtttagt gagaaacett teaattttet tttattagaa gggccagett actgttggtg
                                                                       180
gcaaaattgc caacataagt taatagaaag ttggccaatt tcaccccatt ttctgtggtt
                                                                       240
tgggetecae attgeaatgt teaatgeege gtgetgetga eacegacegg agtacetegg
                                                                       300
                                                                       360
ccgcgaccac gctaagggcg aattccagca cactggcggc cgttactagt ggatccgagc
teggtaceaa gettggegta ateatggtea tagetgttte etgtgtgaaa ttgttateeg
                                                                       420
ctcacaattc cacacaacat acgageegga agcataaagt gtaaageetg gggtgeetaa
                                                                       480
tgagtgaget aacteacatt aattgegttg egetcaetge eegettteca gtegggaaac
                                                                       540
ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg ggagaggcgg tttgcgtatt
                                                                       600
gggegetett cegettnete geteactgae tegetgeget eggtegtten getgeggega
                                                                       660
geggtateaa getaeteaaa ggengtaata eegntateea cagaateagg ggataacgca
                                                                       720
ggaaagaaca ttgtgagcaa aaggcancaa aagggcagga accgtaaaaa n
                                                                       771
      <210> 170
      <211> 777
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (777)
      <223> n = A, T, C or G
      <400> 170
acacttgacc tgatacgcca acttggtacc gageteggac cactagtaac ggccgccagt
                                                                        60
gtgctggaat tegecettag egtggtegeg geegaggtac acagaatage tgageagtte
                                                                       120
                                                                       180
acttcaggga tcaggtcatc tctgctcctc ctagtttcac catgttctgg caataaaaaa
cacatattat atcctggttt tctctatcct tgcattacta aggtgactgt ctctctttat
                                                                       240
acatectigt atggttetee cagtattage aagattgtat atetgtaaag aatgtecagt
                                                                       300
tttgtaaata tttccctqcc tttttttttc tttttttaca tctgatttta atgcttcgtt
                                                                       360
aacttcaaaa ggaactggta gagttcagaa ggtgagctgt tgtttttcta aacctcttcc
                                                                       420
caggaagggg acattgacac ttgaattttt gtcacctttt tcctcattag aaggaaagta
                                                                       480
gaaageetta etgtaggatt titaaaaaaa aateeatete acceeatatt ggtettaaat
                                                                       540
aagtatagac taattaacct aagctacctt taacaacgta gaatttagat gggttcatat
                                                                       600
                                                                       660
atgtgagaaa aacctgaata taggacaggg gtcctacttt tttccccacc tctgtcgccc
aggotagagt atagtggtgt gatcttggcc cactgnaacc totgettoot anggtcaagt
                                                                       720
gattetteet geeteacett ccaagtaget gggattggaa gaatatgeen ececceg
                                                                       777
      <210> 171
      <211> 782
      <212> DNA
      <213> Homo Sapien
      <220>
```

<221> misc_feature

```
<222> (1) ... (782)
      <223> n = A,T,C or G
      <400> 171
nngggcccnt agagcatgct cgacggccgc cagtgtgatg gatatetgca gaattegccc
                                                                       60
120
tagaaagtag getgggcacg gtggctcatg cetataatce cagcacttgg ggaggeegag
                                                                      180
gatctcctct ctggtggatc acttgagggc aggagttaag agaccatcct ggccaacatg
                                                                      240
atgaaaccet gtetetaeta aaaataeaaa aagtagetgg gegtggtgge ataetettae
                                                                      300
aatcccagct acttgggagg ctgaggcagg agaatcactt gaacctagga agcagaggtt
                                                                      360
gcagtgggcc aagatcacac cactatactc tagcctgggc gacagaggtg gggaaaaaag
                                                                      420
taggacccct gtcctatatt caggtttttc tcacatatat gaacccatct aaattctacg
                                                                      480
ttgttaaagg tagcttaggt taattagtct atacttattt aagaccaata tggggtgaga
                                                                      540
tggatttttt tttaaaaatc ctacagtaag gctttctact ttccttctaa tgaggaaaaa
                                                                      600
ggtgacaaaa attcaagtgt caatgtcccc ttcctgggaa gaggtttaga aaaacaacag
                                                                      660
ctcaccttct gaactctacc agttcctttt tgaaagttaa ccgaagcatt aaaatcagat
                                                                      720
gttaaaaaag aaaaaaaaaa ggcnggqaaa atatttacaa aactgggaca ttctttacag
                                                                      780
                                                                      782
      <210> 172
      <211> 773
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(773)
      \langle 223 \rangle n = A,T,C or G
      <400> 172
cantigacet gatacgecaa etiggtaceg aeteggacea etagtaaegg eegecagtgt
                                                                       60
getggaatte gecetttega geggeegeee gggeaggtae cateetgtgg eteettaagg
                                                                      120
aggettetet etttaattet eeatgaggea teeagggtgg tetgggetat gggaagaace
                                                                      180
ottcaacttg ggagtagaca ggtgctccaa ttcatagtgc ccattctcag aggccttgtg
                                                                      240
tgtgagtttc tccttcatgc cttccttctg gctcttcttg tgctccataa tctgctggag
                                                                      300
ctggtgccca gcatagtctg gcttggtggt cagcgggcca gccggcacag ctacaccaag
                                                                      360
gacatetgae accatgtagg ggegeageea geceaecaag ggagtgette eggggetgta
                                                                      420
gtgggtctgt ttgtggtaga agagaagtcc atctacctca aaagggaaat ccatagatag
                                                                      480
cacatcacac aggetttegg gagtgeaagg gaagttettt ageeccacaa atttaaaagg
                                                                      540
attaagettg gitticic ccagicette tiettetggt aaettigaat geatecagta
                                                                      600
gaatcggaaa tcaagtctgg caatcataaa aagggtgtcc ccgccagcac atcacattca
                                                                      660
gaacgtagta ggtctggttt acctcattgt aaatgcaatc tagaatggtg taagcttttg
                                                                      720
ctgntgaagt ttccctgtgc ctctggcaga atgaagaaan ctgttgacac aac
                                                                      773
      <210> 173 <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (772)
      <223> n = A, T, C or G
      <400> 173
ntgggcctct nnagctgctc gacggccgcc atgtgatgga tatctgcaga attcgccctt
agcgtggtcg cggccgaggt acagttcctt ggagcagagt gagcgccgcc ggaggttact
                                                                      120
ggaactgcag aaatccaagc ggctggatta tgtgaaccat gccagaagac tggctgaaga
                                                                      180
tgactggaca gggatggaga gtgaggaaga aaaataagaa agatgatgaa gaaatggaca
                                                                      240
ttgacactgt caagaagtta ccaaaacact atgctaatca attgatgctt tctgagtggt
                                                                      300
taattgacgt teetteagat ttggggcagg aatggattgt ggtegtgtge eetgttggaa
                                                                      360
```

```
aaagagccct tatcgtggcc tccaggggtt ctaccagtgc ctacaccaag agtggctact
                                                                      420
                                                                      480
gtgtcaacag gttttcttca cttctgccag gaggcaacag gcgaaactca acagcaaaag
                                                                      540
actacaccat totagattgc atttacaatg aggtaaacca gacctactac gttctggatg
tgatgtgctg geggggacae cetttttatg attgccagae tgatttccga ttctactgga
tgcattcaaa gttaccagaa gaagaaggac tgggagagaa aaccaagctt aatcctttta
                                                                      660
aatttgtggg gctaaagaac ttcccttgca ctcccgaaag cctgtgtgat gtgctatcta
                                                                      720
tggatttcct tttgaggtag atggacttct cttctaccac aaacagaccc ac
                                                                      772
      <210> 174
      <211> 780
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (780)
      \langle 223 \rangle n = A,T,C or G
      <400> 174
acactatgac ctgatacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                       60
                                                                      120
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacaaaaata catttttcca
catacaaaag agagaaaaa acaaagacat gtggcgggtg gcgaggggag gcccaatccc
                                                                      180
aacaccctac aaggttccat ggaatggaga aggaacaaaa aaatccccaa ttattttggg
                                                                      240
gtaagatgtg ccccagaaaa ggtgaaatct atgcaataaa acccaggttt tcttcaaatc
                                                                      300
tagcatctag gatttctatc agagtttcaa ataatcagaa tttctatcag aatttctacc
                                                                      360
ctgaggtgac acctactaac tgtaggttct ttcattaaaa atgaagacat ctttcaccag
                                                                      420
aatgtatcaa gctataaaac tggcttcaga gcctacactt agccagagtg gaaaaaaaaat
                                                                      480
                                                                      540
agtgcatatt ttcgacagca attttgaatt gatgcttgag gtctcaatcc accagcaccc
agatateatg ttaceteect cagtigaata caagttaaaa tgatgatett ategagatet
                                                                      600
                                                                      660
caatagagca cagtgccctt catgtttcgg gtaagaaggt gggaggagga atgaagccgg
gtattacacc cagoccaatg acagottaag cottaacatg enggoatott acaatgacca
                                                                      720
                                                                      780
taaacaaggg angggccaag canggctngc gatcattact ttgcgcacag aatgccatgt
      <210> 175
      <211> 771
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(771)
      <223> n = A, T, C or G
      <400> 175
gggeetetag ageatgeteg ageggeegee atgtgatgga tatetgeaga attegeeett
                                                                       60
                                                                      120
tegageggee geegggeagg tactaaaaca getttgetta tgttggeeag gggaaaacat
ggcattetgt gegcaaaget aatgategee ageeetgeet tggeeeetee ettgtttatg
                                                                      180
                                                                      240
getteattee tecteecace etettaceeg aaacatgaag ggeactgtge tetattgaga
                                                                      300
totogataag atcatcattt taacttgtat toaactgagg gaggtaacat gatatotggg
                                                                      360
tgctggtgga ttgagacctc aagcatcaat tcaaaattgc tgtcgaaaat atgcactatt
                                                                      420
ttttttccac tctggctaag tgtaggctct gaagccagtt ttatagcttg atacattctg
                                                                      480
gtgaaagatg tottcatttt taatgaaaga acctacagtt agtaggtgtc acctcagggt
                                                                      540
agaaattotg atagaaatto tgattatttg aaactotgat agaaatoota gatgotagat
ttgaagaaaa cctgggtttt attgcataga tttcaccttt tctggggcac atcttacccc
                                                                      660
aaaataattg gggatttttt tgntccttct ccattccatg gaaccttgta gggtgtttgg
                                                                      720
gattgggcct tccctngcca cccgccacat gtctttggtt ttttctctct t
                                                                      771
      <210> 176
      <211> 773
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1)...(773)
      <223> n = A, T, C or G
      <400> 176
atngggeete tagageatge tegageggee gecatgtgat ggatatetge agaattegee
                                                                     120
cttagcgtgg tcgcggccga ggtactcatg tattttttt tttttccaga tctctttccc
caagttgcta ttgtaagagt attctgctgc gtgtggatgc agttatacac attaaagcag
                                                                      180
                                                                     240
atctggagtc tgaagtagct ataaagcagc tataaaacag aaatacatgc atagctgcag
300
                                                                     360
ttggttttac agagaagaga tttttattac aaagaaaaaa attccagtga attgtgcaga
                                                                      420
aatgotggtt tttacaccat cotaaagaaa aactttacaa gggtgttttg gagtagaaaa
aaggttataa agttggaatc ttaaattgta aaattaacca ttgagtgtca aagttctaaa
                                                                     480
                                                                     540
agcagaactc attttgtgca atgaacataa ggaaagacta ctgtataggt tttttttttc
                                                                     600
tccttttaaa tgaagaaaag ctttgcttaa gggttgcata cttttattgg agtaaatctg
aatgatocta ctcctttgga gtaaaactag tgcttaccag tttccaattg tatttagctt
                                                                      660
ctggttggaa tttgaaaaaa aaagaaaaaa agaaaaagaa aacctaaata aaataggtga
                                                                      720
aagttccctg actattcagg tgaatacnca aaaanaaan nnnnnnaann nnt
                                                                      773
      <210> 177
      <211> 772
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (772)
      <223> n = A, T, C or G
      <400> 177
acattngacc tgatacgcca gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                      60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta cagtaggaaa ataagaataa
                                                                      180
caacgggcaa aatcttttta gaacatttat gctttatctg ttttagcttc taaaacaatc
                                                                      240
ctgaaggatg aataattatc atgagtatag cagaatttaa ttttccctgt tgctccaaaa
ttttaatgaa aactttacgg ttgagagaaa taggtaaata aaaaaacttc ctaaaattct
                                                                      300
aaagacaatt gttgaataaa atttaagtga atgagtttgt gcttcatatt taacttttaa
                                                                      360
                                                                      420
ctttccaata ggctttatta aatggaaaac tgaaatttac aaagtcttag agtagaagca
tttttatcct ggctagggat tctctaagag aaccagtagc accaagatgc actggaacag
                                                                      480
tgcaacgaga gagttcatgc cttanggttt agaagcatac aagcaaaggg aatggtgccc
                                                                      540
acttettact agaaaaattt cacaggetgg agtetgggeg gaggageetg ggatgacagt
                                                                      600
agaagtgtgc aggaagcact aagtctagcc tgtacctgcc cgggcggncg ctcgaagggc
                                                                      660
gaattetgea gatateeate acaetggegg cegetegage atgetetana gggeecaatt
                                                                      720
cgccctatag tgagtcggat tacanttnaa tggccgncgt tttacaacgt cc
      <210> 178
      <211> 770
    <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(770)
      \langle 223 \rangle n = A,T,C or G
      <400> 178
attgggcccc tnnagcatgc tcgngcggcc gccagtgtga tggatatctg cagaattcgc
                                                                      60
                                                                      120
cettegageg geogeoeggg caggtacagg ctagacttag tgetteetge acaettetae
tgtcatccca ggctcctccg cccagactcc agcctgtgaa atttttctag taagaagtgg
                                                                      180
                                                                      240
geaccattee ettigetigt atgettetaa accetaagge atgaactete tegitgeact
gttccagtgc atcttggtgc tactggttct cttagagaat ccctagccag gataaaaatg
```

```
cttctactct aagactttgt aaatttcagt tttccattta ataaagccta ttggaaagtt
aaaagttaaa tatgaagcac aaactcattc acttaaattt tattcaacaa ttgtctttag
                                                                       420
                                                                       480
aattttagga agttttttta tttacctatt tctctcaacc gtaaagtttt cattaaaatt
ttggagcaac agggaaaatt aaattctgct atactcatga taattattca tccttcanga
                                                                       540
                                                                       600
ttgttttaga agctaaaaca gataaagcat aaatgttcta aaaagatttt gcccgttggt
attottattt tootactgta cotoggoogn gaccacgota agggogaatt ccagcacact
                                                                       660
                                                                       720
qqcqqccqnt actaqtqqat ccqaqctcgg tacccaanct tggcgtaatc atggncatag
ctgttcctgn gngaaatngn natncgntna caattnccac acatacnann
                                                                       770
      <210> 179
      <211> 502
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(502)
      <223> n = A,T,C or G
      <400> 179
                                                                        60
cnnnttgacn tgattcgcca acttggtacc gagctcggat ccctagtaac ggccgccagt
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac ctggccccca acttctcgaa
                                                                       120
                                                                       180
taaaatgaaa ctatgattot tggcctcact cactaccatg tgacattgat caaatcactt
caccteteca aaceteagag tetttatetg taagatggaa aaagtaacae etaetteagg
                                                                       240
                                                                       300
qqctqtcatq aqqattaaat aaatgtgccc agcaggtagt aagtatacaa cacaaagcat
                                                                       360
ctaatggttc atteatacat ttgcttattt tgcaattatt ggccacctgc caatgttggg
                                                                       420
cactgttcta ggcacagggg atacagcaag ggcaaacacc taactactgg tggagggaag
                                                                       480
acgataaaca aatacgtaaa gatttgtgcc aggtagtgat aaaagcaaag aatgactcat
                                                                       502
ggagaggtc agctggggag ac
      <210> 180
      <211> 823
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(823)
      <223> n = A, T, C or G
      <400> 180
                                                                        60
gggccttnna gcatgctcga cggccgccat gtgatggata tctgcagaat tcgccctttc
gageggeege eegggeaggt actgegtggt etececaget gaccetetee atgagteatt
                                                                       120
                                                                       180
ctitgctttt atcactacct ggcacaaatc tttacgtatt tgtttatcgt cttccctcca
ccagtagtta ggtgtttgcc cttgctgtat cccctgtgcc tagaacagtg cccaacattg
                                                                       240
                                                                       300
gcaggtggcc aataattgca aaataagcaa atgtatgaat gaaccattag atgctttgtg
ttgtatactt actacctgct gggcacattt atttaatcct catgacagcc cctgaagtag
                                                                       360
                                                                        420
gtgttacttt ttccatctta cagataaaga ctctgaggtt tggagaggtg aagtgatttg
atcaatgtca catggtagtg agtgaggcca agaatcatag tttcatttta ttcgagaagt
                                                                        480
                                                                       540
tgggggccag gtacctcggc cgcgaccacg ctaagggcga attccagcac actggcggcc
                                                                        600
gttactagtg gatccgagct cggtaccaag cttggcgtaa tcatggtcat agctgtttcc
                                                                        660
tgtgtgaaat tgttatccgc tcacaattcc acacaacata cgagccggaa gcataaagtg
taaagcotgg ggtgcctaat gagtgagcta actcacatta attgcgttgc gctcactgcc
                                                                       720
                                                                       780
cgcttttcag tcgggaaacc tgtcgtgcca gctgcattaa tgaatcggcc aacgcgccgg
                                                                        823
gaaaagengn ttgegtattg gggegetett negetttett gen
      <210> 181
      <211> 501
      <212> DNA
      <213> Homo Sapien
      <220>
```

```
<221> misc_feature
      <222> (1)...(501)
      <223> n = A, T, C or G
      <400> 181
cantatgach tgattegeca acttggtace ngcteggate cetagtaacg gnegecattg
                                                                        60
tnetggaatn cgncettage gtggtegegg cegaggtact ttettenttt netnnaattt
                                                                       120
tecataacet agtgeengnt tgatneecte acatggntgg tteacatnen engtacagan
                                                                       180
geneggneae catggganag ggeageacte ntneettetn angggatett ggeetaangg
                                                                       240
                                                                       300
tgtacnaagg gagangatgg antntcttct gncctcncta nggcctaggg aacccagnag
canateceae nacneetten atntttnage caaggagaag ceeettggtg aenttnagtt
                                                                       360
ccaaccatta tacncagtgn gagaatggat nntcctggtc ccaaccatta cagggtgaag
                                                                       420
atatnaacag ttaaggaaga tacagtttng atgaggcctc anganggagc agntnacacc
                                                                       480
atcatannca tatgcaggga a
                                                                       501
      <210> 182
      <211> 830
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(830)
      <223> n = A,T,C or G
      <400> 182
ggcccttnga ngcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
                                                                        60
                                                                       120
cgagcggccg cccgggcagg tacacgagaa gctccgagga tggctgaagt ccaacgtctc
                                                                       180
tgatgoggtg gotcagagea coogtateat ttatggagge tetgtgaetg gggcaacetg
caaggagetg gecagecage etgatgtgga tggetteett gtgggtggtg etteeteaa
                                                                       240
geographic gtggaeatea teaatgeeaa acaatgagee ceatecatet teeetaceet
                                                                       300
tectgecaag ceagggacta ageageeeag aageeeagta aetgeeettt eeetgeatat
                                                                       360
gettetgatg gigicateig electiceig iggeeleate caaacigiat elicetitae
                                                                       420
tgtttatate ttcaccetgt aatggttggg accaggecaa tecettetee acttactata
                                                                       480
atggttggaa ctaaacgtca ccaaggtggc ttctccttgg ctgagagatg gaaggcgtgg
                                                                       540
tgggatttgc tcctgggttc cctaggccct agtgagggca gaagagaaac catcctctcc
                                                                       600
                                                                       660
cttcttacac cgtgaggcca agatcccctc agaangcang agtgcttgcc cttcccatgg
tgcccgtgcc tcttgtgctg ngtatgtgaa ccaccccatg tgagggaata aacctggcac
                                                                       720
tangtotttg aaaaaaanaa aaacntnaaa aaaantooot toggoognga coacgotaag
                                                                       780
                                                                       830
gnccaattcc ancacaatgg gcgnncgtna ctantggatc caaccttnct
      <210> 183
      <211> 484
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (484)
      <223> n = A, T, C or G
      <400> 183
ttgacatgat acccaacttg taccgagete ggatecacta gtaacggeeg ccagtgtgct
                                                                        60
ggaattegee etttenageg geegeeeggg caggtacece ageeegeeee actgagtttg
                                                                       120
                                                                       180
cottotatco gggatatcog ggaacotaco agootatggo cagttacotg gaogtgtotg
tggtgcagac tetgggtgct cetggagaac egegacatga etecetgttg cetgtgggca
                                                                       240
gttaccagtc ttgggctctc gctggtggct ggaacagcca gatgtgttgc cagggagaac
                                                                       300
agaacccacc angicectit tiggaaggea geattigeag acticaacgg geaaaaccte
                                                                       360
                                                                       420
tgacgcctgc gcctttcgtc gcggncgcag aaaccatttc gnactttaan attgaatctt
ctctaaggtt ganaatttct ggatcccttg anaactttta canntgnnct ttantccntt
                                                                       480
                                                                       484
taaa
```

```
<210> 184
      <211> 824
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(824)
      <223> n = A, T, C or G
      <400> 184
                                                                        60
ggccttagag ctgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg
togtcqcqc cqaggtacca gattggccac tctagggtag aacaccaggt agattcctaa
                                                                       120
ggttcctgac tccaggccct ggctcccagt tggcatctct ggacctactt ggggtcacag
                                                                       180
tgaactcact gccctgaagg gaagatgcct ggctggatat gccacctgct gattggagag
                                                                       240
                                                                       300
teettggace ttgagtgaac acaggtggta gecaggeagt gateateata ggeettgggt
                                                                       360
gagececagt getgtgttgg etteaggtet gacacagage tgteecagtg gtagtegeca
caggggtgct tgtgtcatca tcccttctcc agctccaggc agctcagcac agagacatag
                                                                       420
                                                                       480
tgtccatttg tttgagtgaa agtaaaagaa gagaacaaga gtctccacct agtaatccag
ggaattetee cagatettae ecaagacaae caaggeaaga gacacageat taetgggetg
                                                                       540
                                                                       600
gaggtgcccc ctaatgcagg tatggctgca gtgaacaaag acttagatca caacaccaa
atcccttcta ataqttqqaa agccttncca agaaggatgc cggacaaaca agcccaaact
                                                                       660
                                                                       720
gtgaagacta caacaaatac ctaactcttt caatgcccag acactgaaga atatcccaaa
ctttaagacc atccatgaaa acatgacctt accaacaagc taaataagac accagtgacc
                                                                       780
aatcccagag agatagagat atgtgtcctt tcnnacagag aatt
                                                                       824
      <210> 185
      <211> 499
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(499)
      <223> n = A, T, C or G
      <400> 185
                                                                        60
cacttgacnt gatacgccaa cttgtaccga ctcggatcca ctagtaacgg ccgccagtgt
gctggaattc gcccttagcg tggtcgcggc cgaggtactt tttctttttt nttntatttt
                                                                       120
tttttttcgt ctccccaaag ctttatctgt cttgactttt taaaaaagtt tgggggcaga
                                                                       180
ttotgaattg gotaaaagac atgoattttt aaaactagca actottattt otttoottta
                                                                       240
aaaatacata gcattaaatc ccaaatccta tttaaagccc tgacagcttg agaaggtcac
                                                                       300
tactgcattt ataggacctt ctggtggttc tgctgttacg tttgaagtct gacaatcett
                                                                       360
gagaatettt geatgeagag gaggtaagag gtattggatt tteacagagg aagaacacag
                                                                       420
ccgcanaatg aagggccagg cttactgagc tgccaatgga gggctcatgg gtgggacatg
                                                                       480
gnaaagaagg cacctagcc
                                                                       499
      <210> 186
      <211> 504
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(504)
      <223> n = A,T,C or G
      <400> 186
cacttgacht gatacgccaa cttggtaccg agctcggatc cctagtaacg gccgccagtg
                                                                        60
tgctggaatt cgcccttage gtggtegegg cegaggtace teaggaggte tgcaagtgtg
                                                                       120
tggttaggta aaaactganc tgtgcaaact cactgtatcc aagctcttct catgagagag
                                                                       180
cggaacaacc tggcaagctt aaaggcaagt gttttcgttc ttttaattaa ataggctgtg
                                                                       240
```

```
acaaaattaa caataaaact agcccagaac caaccagccc ggtaagtgtc gtgcaaatct
                                                                        300
tgcagtaaca aaagaccatc tgagagacta cacgttggtc tccagtccta gcaagcgtcc
                                                                        360
                                                                        420
cattetetne acattettat caattgtage ttgacatgtt ateteettgg cacattecat
aggaaaccag cototttotn catologiag togntocccc ttataccage catogotgac
                                                                        480
acgtttgata gatgaagacg acgt
                                                                        504
      <210> 187
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (822)
      \langle 223 \rangle n = A,T,C or G
      <400> 187
gggcctctna gctgctcgnc ggccgccatg tgatggatat ctgcagaatt cgccctttcg
                                                                        60
ageggeegee egggeaggta egeggggaet gggtttttet cettttgtag cetttteett
                                                                        120
tagtotocto ttocoggtgg ttggtaaaaa gaggtgaatt gacagcotat gttgaagaca
                                                                        180
ctgtgctttt ctcaagaagg acatccaaac agcaagtcta cttctttctc tttaacgatg
                                                                        240
tgctcattat caccaagaag aagagtgaag aaagttacaa cgtcaatgat tattccttaa
                                                                        300
gagatcagct attggtggaa tettgtgaca atgaagaget taattettet eeagggaaga
                                                                        360
acagetecae aatgetetat teaagacaga getetgeeag teacetettt actetgacag
                                                                        420
tccttagtaa ccacgcgaat gagaaagtgg agatgctact aggagctgag acgcagagcg
                                                                        480
agegageeeg etggataaet geeetgggae acageagegg gaageegeet geagacegaa
                                                                        540
cctcactgac ccaggtggaa atcgttaggt catttactgc taagcagcca gatgaactct
                                                                        600
ccctgcaggt ggctgacgtc gtcctcatct atcaacgtgt cagcgatggc tggtatgagg
                                                                        660
gggaacgact acgagatgga gaaagaagct ggtttcctat ggaatgtgcc aaggagataa
                                                                        720
catgicaage tacaattgat aagaatgigg agagaatgigg accttgctag gactggagac
                                                                        780
caacgigtag tototoaaan gnottitiggt actgoaagat ig
                                                                        822
      <210> 188
      <211> 504
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (504)
      <223> n = A, T, C or G
      <400> 188
tatgancatg atacgccaac ttggtaccga gctcggatcc actagtaacg gcccgccagt
                                                                         60
gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac caaaaaagta aacattgata
                                                                        120
atatggcctg acaacaatca gatatgctaa gctctagaag caaaagcaag gtaggattgc
                                                                        180
ctccaaatgt tgacaggtat tagccatacc acagtaacta gatctaatgt gagggctaaa
                                                                        240
tgcctggaga ggcagaaccc taaaggatgc ttagttatag ctccatgctg ccgccgagtg
                                                                        300
gettgatget ceattacace etecttggat ecaacettee attaaggetg aaggetetag
                                                                        360
agggcagagt attcaagatg ttagatctgg tccaagccca aattctagag ttaaaagcag
                                                                        420
aggggttett agtggetgaa aaaaaacaaa acetgatgae atttgggaet eeagttttga
                                                                        480
ggaaaggete tgatgatgag gett
                                                                        504
      <210> 189
      <211> B42
      <212> DNA
      <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) ... (842)
     <223> n = A, T, C or G
```

```
<400> 189
nnnnnnntt tttgaaccgg ccctntnang catgctcgac ggccgccatg tgatggatat
                                                                      60
ctgcagaatt cgccctttcg agcggccgcc cgggcaggta cccttctcgc ttttgccatt
                                                                     120
                                                                     180
agccaaggat agaagctgca gtggtattaa ttttgatata atctttcaaa ccagcttcat
                                                                     240
gtggcttccc ttttctttgt tcaagatgag ggccaggagg ggaaacatca cacctgccct
aaaccctgtt cctggaggtc agcatttgat ctgttgcaag cccctctttc tgtcccctct
                                                                     300
                                                                     360
tectaceetg ceteceatga etttgeteet cacaettttg gaaceatgee tteegggggg
                                                                     420
goccatotot totggoogto ottgtototg ggocacttgg agtgtgtgat aaatcagtca
agotgttgaa gtotcaggag tototggtag cotgoagaag taagootcat catcagagco
                                                                     480
tttcctcaaa actggagtcc caaatgtcat caggttttgt ttttttcag ccactaagaa
                                                                     540
                                                                     600
cccctctgct tttaactcta gaatttgggc ttggaccaga tctaacatct tgaatactct
                                                                     660
geoetetaga geotteagee ttaatggaag gttggateea aggagggtgt aatggageat
caagecacte ggeggeagea tggagetata actaageate etttagggtt etgeetetee
                                                                     720
aggeatttag cocctacatt agatetagtt actgtggtat ggetaatace tgtcaacatt
                                                                     780
                                                                     840
tggaggcaat cctaccttgc ttttgcttct agagcttagc atatctgatg gttgcaggcc
                                                                     842
      <210> 190
      <211> 503
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(503)
      <223> n = A, T, C or G
     <400> 190
actatgacct gattacgcca agcttggtac cgagctcgga tccctagtaa cggccgccag
tgtgctggaa ttcgcccttt cgagcggccg cccgggcagg taccatgctg acttcttggt
                                                                     120
                                                                     180
atcttttaag gcctaatttt cccttccttg agattactgt agtgtgttcc agctaatttc
tatttggaaa cgagttggaa cagctgaaaa ctaggtatta ttgaaggcaa agcagcctca
                                                                     240
                                                                     300
cgtcagtttt ttatcagctc atttgggaag ttttttttt tttttttaa ttaattagaa
agtaggetgg acaeggtgge teatgeetat aateecagea ettggggagg eegaggatet
                                                                     360
cctctctqqt qqatcacttg agggcaggag ttaagagacc atcctggcca acatgatgaa
                                                                     420
accetgicte tactaaaaat acaaaaagta netgggegig giggeatact ettacaatee
                                                                     480
cagctacttg ggaggctgag gca
                                                                     503
      <210> 191
      <211> 829
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(829)
      <223> n = A, T, C \text{ or } G
      <400> 191
                                                                      60
gggcctctga gcatgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
cgtggtcgcg gccgaggtac ttttttttt tctttttta catctgattt taatgcttcg
                                                                     120
                                                                     180
ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc taaacctctt
cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt agaaggaaag
                                                                     240
                                                                     300
tagaaageet taetgtagga tttttaaaaa aaaateeate teaceecata ttggtettaa
ataagtatag actaattaac ctaagctacc tttaacaacg tagaatttag atgggttcat
                                                                     360
                                                                     420
atatgtgaga aaaacctgaa tataggacag gggtcctact tttttcccca cctctgtcgc
ccaggctaga gtatagtggt gtgatcttgg cccactgcaa cctctgcttc ctaggttcaa
                                                                     480
                                                                     540
gtgattctcc tgcctcagcc tcccaagtag ctgggattgt aagagtatgc caccacgccc
agctactttt tgtattttta gtagagacag ggtttcatca tgttggccag gatggtctct
                                                                     600
                                                                     660
taactcctgc cctcaagtga tccaccagag aggagatcct cggcctnccc aagtgctggg
720
```

```
780
aaactttcca aatgagctga taaaaaactg acgtgaggct gctttgcctt caataatacc
tagttttcag ctgtccaact cgtttccaaa tagaaattaa gctgggang
                                                                        829
      <210> 192
      <211> 503
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(503)
      <223> n = A,T,C or G
      <400> 192
ntatgaccat gattacgcca agettggtac cegagetegg atccactagt aacggeegee
                                                                         60
agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtactgcct ttgggcttct
                                                                        120
teleteteet gittleteet etegaatiet tlactgitti aatacatigi telietgget
                                                                        180
gaggetggte aaagetacae tgatetteaa ataaaggete gteaatgeta caetgttett
                                                                        240
caagcaacgg ctggtgaact tgttctgaca aaggatggtc gacttttctt gcttgcttcc
                                                                        300
tatgtettte etetteaget aaatagagat gttteagatt atetgggtat egatetgtga
                                                                        360
attgagattc cagtgacgtt tgagccttct tttccttccg tagcaatttc ttgtaacttt
                                                                        420
gctgtatttt cagttttctt cgaaaagcaa agccttgtcc ctcgcgaacg ctccccacga
                                                                        480
agettgeggg tggttaggee gea
                                                                        503
      <210> 193
      <211> 634
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (834)
      \langle 223 \rangle n = A,T,C or G
      <400> 193
aneggetete tagagetget egaeggeege catgtgatgg atatetgeag aattegeeet
                                                                         60
tagcgtggtc gcggcncgag gtacaattca ttatgtgttt cattaattac ctttattaaa
                                                                        120
aacaacacaa ttatattaca atagggacaa aaaatgttta agcaaatgaa aacgaaacca
                                                                        180
tgacataccc anactcagga ggaggcaaca aaggcagtgc taaagggaag cttacagctc
                                                                        240
cagatgetta aattaaaaag aagaaagate teaaaceeat getaaaggga agettacage
                                                                        300
tacagateet taaattaaaa agaagaaaga teteaaaeee atgetaaagg gaagettaca
                                                                        360
gctgcagatg cttaaattaa aaagaagaaa gatctgaaac ccttgctaaa gggaagctta
                                                                        420
tagctgcagg tgcttaaatt aaaaagaaga aagatctcaa atcaataacc taacattaca
                                                                        480
cctgaagggg gggaaaaaaa ctaatgacaa accaagcaaa aggaagaaaa taacagatta
                                                                        540
gagcagagat aagcagaata agaccagaaa aaaggaaaaa aacactgagt ttgtttttt
                                                                        600
aaagatcaat aaaaatttta aaactcacag ctatattaag aaaaaagaga aatctcaaat
                                                                        660
actawaatca taagtaaaag angtgacagt acaggaataa gaatgtgaga cagaagacat
                                                                        720
ggcggcctac cacccgcaag ccttcgtggg gagcgttcgc ganggacaag gctttgcttt
                                                                        780
togaagaaaa otgaaaatno ogoaaagtto cagaaattgt tongaagaaa agaa
                                                                        834
      <210> 194
      <211> 502
      <212> DNA
      <213> Homo Sapien
      <400> 194
cactigacct gattcgccaa gcttggtacc gagctcggat ccctagtaac gqccqccaqt
                                                                        60
gtgctggaat tegecettte gageggeege eegggeagga egetgaggee tgggagtete
                                                                        120
ttgactccac tacttaattc cgtttagtga gaaacctttc aattttcttt tattagaagg
                                                                        180
gccagcttac tgttggtggc aaaattgcca acataagtta atagaaagtt ggccaatttc
                                                                        240
accocatttt ctgtggtttg ggctccacat tgcaatgttc aatgccacgt gctgctgaca
                                                                        300
cegaceggag taccteggee gegaceaege taagggegaa ttetgeagat atceateaca
                                                                        360
```

```
ctggcggccg ctcgagcatg catctagagg gcccaattcg ccctatagtg agtcgtatta
                                                                      420
 caattcactg geogtegttt tacaacgteg tgactgggaa aaccetggeg ttacccaact
                                                                      480
 taatcgcctt gcagcacatc cc
                                                                      502
       <210> 195
       <211> 848
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(848)
       <223> n = A,T,C or G
       <400> 195
 gnnnnnntt tnnaatggge etetnnagea tgetegageg geegeeatgt gatggatate
                                                                       60
 tgcagaattc gcccttagcg tggtcgcggc cgaggtactc cggtcggtgt cagcagcacg
                                                                      120
                                                                      180
 tggcattgaa cattgcaatg tggagcccaa accacagaaa atggggtgaa attggccaac
 tttctattaa cttatgttgg caattttgcc accaacagta agctggccct tctaataaaa
                                                                      240
 gaaaattgaa aggtttctca ctaaacggaa ttaagtagtg gagtcaagag actcccaggc
                                                                      300
                                                                      360
 ctcagcgtcc tgcccgggcg gccgctcgaa agggcgaatt ccagcacact ggcggccgtt
 actagtggat ccgagctcgg taccaagctt ggcgtaatca tggtcatagc tgtttcctgt
                                                                      420
 gtgaaattgt tatccqctca caattccaca caacatacqa gccggaagca taaagtgtaa
                                                                      480
 agcctggggt gcctaatgag tgagctaact cacattaatt gcgttgcgct cactgcccgc
                                                                      540
 tttccagtcg ggaaacctgt cgtgccagct gcattaatga atcggccaac gcgcggggag
                                                                      600
 aggeggtttg egtattggge getetteege tteetegete actgaetege tgegeteggt
                                                                      660
 cgttcggctg cggcgagcgg tatcagctca ctcaaaggcg gtaataccgg tattcacaga
                                                                      720
 attcagggga taacgcagga aagaacatgt gagcaaaagg ncagccaaaag gccaggaacc
                                                                      780
 cgtnaaaagg ccgcgttgct ggcgttnttc cataggctcc gcccccttga cgagcatnac
                                                                      840
 aaaaatct
                                                                      848
       <210> 196
       <211> 511
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(511)
       <223> n = A,T,C \text{ or } G
       <400> 196
 canntatgac ctgattacgc caagettggt accgageteg gatccactag taacggccgc
                                                                       60
. cagtgtgctg gaattcgccc ttagcgtggt cgcggccgag gtactttttt tttttttt
 180
 aaaaaagttt acaaaagaaa aaaagatnca gaaaaagaat aacttgcttc atatgtccca
                                                                      240
 aaaagagaaa aaaataaagg ggacaatgcc aacatgctca acaataaagg cttcttttc
                                                                      300
 ttatttttt aatacaaaat ncaagcaaag gatacacata cttaaaacag agctcaggag
                                                                      360
 canacacgca ntcctggaaa cccttcaata aaancaaagc aggagtttgn tttttctttg
                                                                      420
 tctatgcana tacatacaga gactgggata tgtaaaaatt aagtatnaca aaagaccatt
                                                                      480
 acacgattct accaatgcat gttgcatctn g
                                                                      511
       <210> 197
       <211> 816
       <212> DNA
       <213> Homo Sapien
       <220>
      <221> misc_feature
       <222> (1)...(816)
       <223> n = A,T,C or G
```

```
<400> 197
                                                                        60
gggcctctag agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgcccttt
cgagcggccg cccgggcagg tactaaggaa gttaaagttt gaatgtaacc actttattta
                                                                       120
                                                                       180
aaaggttttt ttctttaatt taaatgaaat ggggttgaag tgaacatgat tttgttgacc
atqttcqtqa attacagatg caacatgcat tggtagaatc gtgtgatggt cttttgtgat
                                                                       240
                                                                       300
acttaatttt tacatatooc agtototgta tgtatotgca tagacaaaga aaaaacaaac
                                                                       360
tectgettig etittatiga agggtticea ggaetgegtg tetgeteetg agetetgttt
                                                                       420
taagtatgtg tatcctttgc ttgtattttg tattaaaaaa ataagaaaaa gaagccttta
ttgttgagca tgttggcatt gtccccttta ttttttctc tttttgggac atatgaagca
                                                                       480
                                                                       540
agttattett tittetgtate tittitiett tigtaaaett tittitigit tigtitaaaa
600
                                                                       660
gtcctcggcc gcgaccacgc taagggcgaa ttccagcaca ctggcggncg ttactagtgg
atccgagctc ggaccaagct tggcgtaatc atggncatag ctgttcctgt gtgaaatgtt
                                                                       720
                                                                       780
atcogotoac aattoocaca catacaacco ggagcataaa gtgtaaacct ggggtgoota
atgagtgagc tactcaataa ttgcgttgcg ctcang
                                                                       816
      <210> 198
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(498)
      \langle 223 \rangle n = A,T,C or G
      <400> 198
tgattegeca agettggtae egagetegga tecaetagta aeggecegee agtgtgetgg
aattcgccct tcgagcggnc gnccgggcag gtacaattca gagcaggtgt ccatagaaac
                                                                        120
aactaggntt gaaaaaactg taagacaatt cacagttgaa atcaaaccaa cactgtgaat
                                                                       180
gtgttaaata cttgccatat aacaacactt taacattgat cttgctaaat aaggctatga
                                                                        240
ttcataagat gcatggattt ccaaagctgn ttaacattct tataaattaa ttcacaggat
                                                                        300
tcaaatagtt gctttttagc ttcaactggg tattagcaaa aatnatacaa aatgatcccc
gtgcaagcac aaatttacct tccttctaaa taaaacatga cagattatat tacaacttga
                                                                        420
tagectetet tttaaaaagt etgtgacatt attaaagagg tgaeggaatg ettgntttge
                                                                        480
aaaccccaac acatcttt
                                                                        498
      <210> 199
      <211> 837
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (837)
      <223> n = A, T, C or G
      <400> 199
nnnnnnntnn cantgggcct ctagagctgc tegacggccg ccatgtgatg gatatctgca
                                                                         60
gaattegeee ttageetggt egeggeegag gtacettgag atetgageaa etgtgttaat
                                                                        120
                                                                        180
gaagtaatag caatggtcca cagtgaaaga tgtgttgggg tttgcaaaac aagcattccg
tcacctcttt aataatgtca cagacttttt aaaagagagg ctatcaagtt gtaatataat
                                                                        240
                                                                       300
ctgtcatgtt ttatttagga aggaaggtaa atttgtgctt gcacggggat cattttgtat
                                                                        360
tatttttgct aatacccagt tgaagctaaa aagcaactat ttgaatcctg tgaattaatt
                                                                        420
tataagaatg ttaaacagct ttggaaatac atgcatctta tgaatcatag ccttatttag
caagatcaat gttaaagtgt tgttatatgg caagtattta acacattcac agtgtttgtt tgatttcaac tgtgaattgt cttacagttt tttcaaacct agttgtttct atggacacct
                                                                        480
                                                                        540
getetgaatt gtacetgeec gggeggeege tegaagggeg aatteeagea caetggegge
cgttactagt ggatccgagc tcggtaccaa gcttggcgta atcatggtca tagctgnttc
                                                                        660
ctgtgtgaaa ttggtatccc gctcacaatt ccacacaaca tacgagccgg aagcataaag
                                                                        720
                                                                       780
tgtaaagcet ggggtgeeta atgagtgage taacteeatt aattgegttg egeteactgg
cccgctttnc agtenggaaa cctgtctgcc anctgcatta atgaatcggc caccccg
                                                                        837
```

```
<210> 200
      <211> 506
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (506)
      \langle 223 \rangle n = A,T,C or G
      <400> 200
nnnnttgacc tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tactgcatcc ataatttatc
                                                                       120
                                                                       180
gecatgtgea acagetttge gttttetaag geacaatttt taatgaaatg atgtgtagat
                                                                       240
ttcaatctaa taacagctca tccaaatgac aaatatggtc gaaatccctc cagtggctga
ggaaatttct gcacctatat ggaacccaca tgcaaagaac ccatctagca tgtaataaat
                                                                       300
                                                                       360
aatcgctagc catactcaat aagacacgga aaaattattg cttacataac agaaaaacat
                                                                       420
ctacttgacc cccttttatg actacatcaa tctattagga gtgtatccat agtctacatt
cacaaaatgt catcttgact tatttgccat tgatttaagg cagaataaat agtcccctt
                                                                       480
                                                                       506
tccccagtct taacaacaaa aaacaa
      <210> 201
      <211> 864
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(864)
      <223> n = A,T,C or G
      <400> 201
conntanago atgotogaog geogeooggg caggtacett ggaagttatg teattaatat
                                                                       120
aggotggttc atcaaataaa gcaaaacctt gcaatatcag ctagatttac actccgggac
gttgcccaaa ggtaggaaga aagcaggggg aaatatttca gtcatcattt ccaaagtcat
                                                                        180
                                                                        240
tatcaaaatc tgtgaggaag tttaatcttc caaagagtca atgtcagaca tcaggcctct
gttgcctgct tctctcgagg cactagatta ggagtcttca ataagagact taacatgagg
                                                                        300
                                                                       360
tatatggaag atgaggcacc gagataagtt catcattagg tgtgagcact gctcaccctt
getggcaagt teteettaag ggeetgaage acaggtgtee aaagaaaage gttaagteea
                                                                        420
                                                                        480
tettaataga atetatgtgg tatatgatgt ggteageee tggtetgtga teageaagaa
                                                                        540
cctacagcac agattatgcc ctgcccactt caatgaatac ctactctcct ncattctcca
tcactttttt gctatcaaga ctccggacct tgcccatgga gaagtttaga gaggaactct
                                                                        600
tgtggagagc tggttaattt tctgccctgt gcgacaagtt tcaacttggc caagaaangg
                                                                        660
agtcaagtta ttaaaaagca tcacaatgta gaatcttcca ggctgggttt tttggntttt
                                                                        720
tnggtggttn aanactgggg gnaaaagggg ggacctattt aaattccngg cctttaaaat
                                                                        780
                                                                        840
caaatgggcc aaaattaagt tcaaggaatg gaccattttt nggggnaaat ggttngaacc
                                                                        864
ttntngggan ttcccncctt ccct
      <210> 202
      <211> 505
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(505)
      <223> n = A, T, C or G
      <400> 202
gnntnanach nttnactaat antganttag theegacteg atcectetna etheantnan
ancgntngaa ttgcccttnn tagcggccnt ccngncaggt acaaccagtt tggaaaacag
                                                                        120
```

```
180
tntcacagtt tttttaaaaa ttacatatac aaccancaac tgacccagcc atttcactcc
                                                                         240
taggtattta cccaagatna actgaagtgt agatacaagc anagacttgn gcacaagtgt
                                                                         300
tcatggtaag ctttactngc antagctcca aactanggac aactcaaata gccaacangg
                                                                         360
aaatggacaa attatgttac tttcatacag tggaatattc tcttgtgata aaaataantg
                                                                         420
aacanttgat acatggatga atctcaaaat aattatgctg agtaaaagaa gccagacaaa
                                                                         480
atgtacagtg catacagcta ttcatgtggg tgccagctcc atcccccagt gacctcttca
tacggncaga gggtggcatg gcanc
                                                                         505
      <210> 203
      <211> 819
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (819)
      <223> n = A, T, C or G
      <400> 203
ggeetengea geatgetega neggeegeea tgtgatggat atetgeagaa ttegeeetta
gegtggtege ggeegaggta egegggagag caggacegga gegegggeea agetggagat
                                                                         120
ggatgatgct gaccctgagg aaagaaacta tgacaacatg ctgaaaatgc tgtcagatct
                                                                         180
gaataaggac ttggaaaagc tattagaaga gatggagaaa atctcagtgc aggcgacctg
                                                                         240
gatggcctat gacatggtgg tgatgcgcac caaccctacg ctggccgatt ccatgcgtcg
                                                                         300
gctggaggat gccttcgtca actgcaagga ggagatggag aagaactggc aagagctgct
                                                                         360
gcatgagacc aagcaaaggc tgtaggcccc actggcccac cacagctgcc atgccaccct
                                                                         420
                                                                         480
ctgcccgtat gaagaggtca ctgggggatg gagctggcac ccacatgaat agctgtatgc
actgtacatt ttgtctggct tcttttactc agcataatta ttttgagatt catccatgta
                                                                         540
tcaattgttc acttatttt atcacaagag aatattccac tgtatgaaag taacataatt
                                                                         600
tgtccatttc cctgttggct atttgagttg tccctagttt ggagctattg cgagtaaagc
                                                                         660
taccatgaac atttgtgcac aagtctttgc ttgtatctac acttcagttt atcttgggta
                                                                         720
aatacctang agtgaaatgg cttgggtcaa tntgttggtt ggatatgtaa ttttttaaaa
                                                                         780
aaaactgnga tactgttttc caaactgggt tgtccctct
                                                                         819
      <210> 204
      <211> 840
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(840)
      <223> n = A, T, C or G
      <400> 204
gnnnnntttn nnctnntgga accepttttg nnaagetget egaeggeege eatgtgatgg
                                                                          60
atatotgoag aattogooot tagogtogto goggoogagg tacottnaga totgagcaac
                                                                         120
tgtgttaatg aagtaatagc aatggtccac agtgaaagat gtgttggggt ttgcaaaaca
                                                                         180
agcattccgt cacctcttta ataatgtcac agactttttt aaaagagagg ctatcaagtt
                                                                         240
gtaatataat ctgtcatgtt ttatttagga aggaaggtaa atttgtgctt gcacggggat
                                                                         300
cattttgtat tatttttgct aatacccagt tgaagctaaa aagcaactat ttgaatcctg
                                                                         360
tgaattaatt tataagaatg ttaaacagct ttggaaatac atgcatctta tgaatcatag
                                                                         420
cettatttag caagatcaat gttaaagtgt tgttatatgg caagtattta acacattcac
                                                                         480
agtgtttgtt tgatttcaac tgtgaattgt cttacagttt tttcaaacct agttgtttct
                                                                         540
atggacacct gctctgaatt gtacccctca gtcaccagca aaagcatttc caccccttc
                                                                         600
aacccccaat cagaccactg cattcagtgg tattggagga ctttcatcac agcttccagt
                                                                         660
aggtgggtet tggcacagge agnetgactg gtatangaac tggtgetett ggactecetg cagtgaataa egaceetttt gtacetgeee gggeggeege taagggegaa ttecacacac
                                                                         720
                                                                         780
tggccggccg ttactagtng gatccnaact cggtccaaan cttggcgtat tcatggtcnt
      <210> 205
```

<211> 497

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(497)
      \langle 223 \rangle n = A,T,C or G
      <400> 205
nnnnttgacc tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                         60
agtgtgctgg aattcgccct tagcgtggtc gcggccgagg tacatttact ataaaagctg
                                                                        120
ttgcatttta gacaacttgt tgtttttatt ttttactgtt tctcagaggc attttagaat
                                                                        180
aaatacttta aatgaaagtt agtataaccg atatagaaca ctggcccacc cagagcagta
                                                                        240
acatettttg gaeggaetea catatgaggt ggateattte agtttgttaa atettacaet
                                                                        300
gtgtatagat aactataata tgtattgcat taatcacact acatagaaag gaaatgtcat
                                                                        360
ggaagttcgc tagtgaaaaa caaaaagtta cccattattt ttattaaaga gtagggacta
                                                                        420
gettttggag tatgagaaaa aaaateagat ataetteete aggaacaata aateaeteae
                                                                        480
ttgcctcacc tgttttt
                                                                        497
      <210> 206
      <211> 820
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(820)
      \langle 223 \rangle n = A,T,C or G
      <400> 206
gggcctntag aagcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc
                                                                         60
tttcgagcgg ccgcccgggc aggtacatgt attgaagcta gaatcgagtc aagaaaaata
                                                                         120
aagccccatt ctccaactgc aaaatgtgct ttcccataat gaacactagt caccagcaca
                                                                         180
gaataatoto caacatttto taaattotaa tigocaacig titotattia taittgatti
                                                                        240
atatttcatt tggagtctgt tacatggcag cttaggcaga ctagatcttg ttttttccaa
                                                                         300
tgcagcataa tgagtatgat ctatttcttt tcaaataatc tttgagatcc caggaaaaaa
                                                                        360
aatgetetge tecattgage tataatgtaa atgtgtttgt ttaaaaaaaca ggtgaggeaa
                                                                         420
gtgagtgatt tattgttcct gaggaagtat atctgatttt ttttctcata ctccaaaagc
                                                                         480
tagtccctac tctttaataa aaataatggg taactttttg tttttcacta gcgaacttcc
                                                                        540
                                                                        600
atgacattte etttetatgt agtgtgatta atgeaataca tattatagtt atetatacae
agtgtaagat ttaacaaact gaaatgatcc acctcatatg tgagtccgtc caaaagatgt
                                                                         660
                                                                        720
tactgctctg ggtgggccag tgttctatat cgggtatact aactttcatt taaagtattt
attictaaaat goototgaga aacagtaaaa ataaaaacca caagttgota aaatgcaaca
                                                                         780
gcttttatag taaatgtcct tgggccgcga ccacgcttag
                                                                        820
      <210> 207
      <211> 496
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(496)
      \langle 223 \rangle n = A,T,C or G
      <400> 207
cnnttgacct gattacgcca agettggtac cgagetegga tecaetagta aeggeegeca
                                                                         60
gtgtgctgga attegeeett agegtggteg eggeeegagg tacaaaagae aaaatcagag
                                                                        120
ttcaatttca gcagcaagac ttatcaagaa tttaatcact atttgacatc aatggttggt
                                                                        180
tgcctgtgga cgtccaaacc ctttgggaaa ggaatatata ttgaccctga aatcctagaa
                                                                        240
                                                                        300
aaaactggag tggctgaata taaaaacagt ttaaatgtag tccatcatcc ttctttcttg
agttacgctg tttccttttt gctacaggaa agcccagaag aaaggacagt aaatgtgagc
                                                                        360
```

```
420
totattongg gaaagaaatg gagotggtat ttggactatt tattttcaca ngggttacaa
ggcttgaaac tttttataag aagtagtggt catcattctt ncattcccag agcagaaggc
                                                                        480
                                                                        496
ataaactgca caatca
      <210> 208
      <211> 810
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(810)
      \langle 223 \rangle n = A,T,C or G
      <400> 208
gcatgctcga cggcccgcca gtgtgatgga tatctgcaga aattcgccct ttcgagcggc
                                                                         60
cgcccgggca ggtactcctt gaggatggca gtctgtcagt gaaatgaaaa tgggaactca
                                                                        120
agatgageca etttgeteta geaatgagga gtgagtttag teeagtgtgt teagtttatg
                                                                        180
tcaacattca tttaatattg attgttgcag tttatgccct ctgctctggg aatggaagaa
                                                                        240
                                                                        300
tgatgaacac tacttettat aaaaagttte aageettgta acceetgtga aaataaatag
                                                                        360
tocaaatacc agetecattt ettteecega atagagetea catttactgt eetttettet
gggctttcct gtagcaaaaa ggaaacagcg taactcaaga aagaaggatg atggactaca
                                                                        420
tttaaactgt ttttatattc agccactcca gttttttcta ggatttcagg gtcaatatat
                                                                        480
                                                                        540
attectttee caaagggttt ggaegteeac aggeaaceaa ceattgatgt caaatagtga
ttaaattott gataagtott gotgotgaaa ttgaactotg attttgtott ttgtacctog
                                                                        600
geogegacea egetaaggge gaatteeage acaetggegg eeggtactag tggateegag
                                                                        660
ctcggtccaa gcttggcgta atcatgggca tagctgtttc ctggtgtgaa attgntatcc
                                                                        720
                                                                        780
gctcacaatt ccacacaaca tacgaaccgg aagcattaag tgtaaagcct ggggtgccta
atgagtgage taacttacat taattgcgnt
                                                                        810
      <210> 209
      <211> 495
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(495)
      <223> n = A, T, C or G
      <400> 209
cnnttgacct gattacgcca agettggtac cgagetegga teeetagtaa eggeegeeag
                                                                         60
                                                                        120
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caactctcca gggcacaata
cgtttacage tgeettteet teacatactt ttetaattea gaactactea caattetaag
                                                                        180
caaattccca ttcacgaagt ctgtccataa tgcgaccttc tcttttttta acatatacat
                                                                        240
cttaaaaaac aaatatataa aaaattetta tittgetgga atgettteaa tittteacat
                                                                        300
                                                                        360
tttacatgat catcacattt atttcttata ttgaaaggca tggtttctgt tgacatgtcg
                                                                        420
tgcaaagcca aaaaaaaaa anaaaaaaaa aagggctgga ttgcttttca attggtctaa
cacttttcct tgtctaggct ttggatttta aagttcatga cagcccacc accagtagaa
                                                                        480
                                                                        495
accccaaggc ttgca
      <210> 210
      <211> 820
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(820)
      \langle 223 \rangle n = A,T,C or G
      <400> 210
```

```
60
gggcetcaga getgetegan eggeegeeat gtgatggata tetgeagaat tegecettte
                                                                     120
gageggeege eegggeaggt acceaegttt tgetecaeae teettgaeeg eaggggeteg
gacacaaacc cctgtcacca ggagagtcag tcagcactac ttgggagggc taaagggaaa
                                                                      180
                                                                     240
tttggaaata aaattocaaa gtttggagta aaaaaattoa agtgttgatt ttatattott
tccctttctg acacagccta aagcgtaggg ggaacatgtg tttatctgtg ggagataaac
                                                                     300
                                                                     360
aaqatqqaqt cccaaaqact ttaacaaaat attttttaa aaatccacta gaatagaaaa
tacattattt agatatactt tatgctgaga gtgagtatat atgcttgtcc tatttaaact
                                                                      420
tgtgagaaaa agtggtatee ettgataeat ttagaaatat gggggetate ttgttteatt
                                                                     480
gtggggtgg ggcagaagga gaataaatgc aggatgaccc tgttgaagga atcttancat
                                                                      540
                                                                      600
ggccaacagg ggacgtttcc agtcgattac caggaaatgc aagccttggg gtttctactg
gtggtggggc tgtcatgaac tttaaaatcc aaagcctaga caaggaaaag tgttagacca
                                                                      660
                                                                      720
attgaaaagc aatccagccc ttttttttt nnnntttttt tttggctttg cacgacatgt
caacagaaac catgeettte aatntaagga aataaatgtg atgateatgt aaaatgtgaa
                                                                      780
                                                                      820
aaattgaaag cattncacca aataaggaat tttttatttn
      <210> 211
      <211> 499
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (499)
      \langle 223 \rangle n = A,T,C or G
      <400> 211
cantigacto attacoccaa octigotacc gageteggat ccactagtaa eggeegeeag
                                                                       60
tgtgctggaa ttcgccctta gcgtggtcgc ggcccgaggt acaactctcc agggcacaat
                                                                      120
                                                                      180
acgittacag cigocitico itcacataci titotaatio agaactacio acaatictaa
                                                                      240
gcaaattccc attcacgaag tetgtecata atgegaeett etetttttt aacatataca
tottaaaaaa caaatatata aaaaattott attttgotgg aatgotttoa atttttcaca
                                                                      300
                                                                      360
ttttacatga tcatcacatt tatttcttat attgaaagge atggtttctg ttgacatgtc
                                                                      420
gtgcaaagcc aaaaaaaaa aaaaaaaaaa aagggctgga ttgcttttca atngggtcta
                                                                      480
acacttttcc ttgtctaggc tttggatttt aaagttcatg acagccccac caccagtaga
                                                                      499
aaccccaagg cttgcattt
      <210> 212
      <211> 821
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(821)
      <223> n = A, T, C \text{ or } G
      <400> 212
qqqcccntan aqcatqctcq agcggccgcc atgtgatgga tatctgcaga attcgccctt
                                                                       60
togagoggoo gooogggoag gtaccoacgt tttgotocac actoottgac ogcaggggot
                                                                      120
eggacacaaa eecetgteac eaggagagte agteageact acttgggagg getaaaggga
                                                                      180
                                                                      240
aatttqqaaa taaaattcca aagtttggag taaaaaaatt caagtgttga ttttatattc
                                                                      300
tttccctttc tgacacagcc taaagcgtag ggggaacatg tgtttatctg tgggagataa
360
                                                                      420
aatacattat ttagatatac tttatgctga gagtgagtat atatgcttgt cctatttaaa
cttgtgagaa aaagtggtat cccttgatac atttagaaat atgggggcta tcttgtttca
                                                                      480
ttgtgggggt ggggcagaag gagaataaat gcaggatgac cctgttgaag gaatcttagc
                                                                      540
atggccaaca ggggacgttt ccagtcgatt accaggaaat gcaagccttg gggtttctac
                                                                      600
tggtggtggg gctgtcatga actttaaaat ccaaagccta gacaaggaaa agtgttagac
                                                                      660
caattgaaaa gcaatccagc ccttttttt tttttttt ttggctttgc acgacattgt
                                                                      720
                                                                      780
taacagaaac catgcettic aatattagaa ataaatgtga tgatcatgtt aaatgtgaaa
aattggaage etteageaaa ataagaattt ttattinttt n
                                                                      821
```

```
<210> 213
      <211> 497
      <212> DNA
      <213> Homo Sapien
      <400> 213
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
                                                                           60
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caaaacaata gtctaaacta
                                                                          120
acacgaactg ttacctggte tattaaagga tacacggtat ccactaaaca gacagatcct
                                                                          180
tatttccctg cttgatgttg caaagccctt ggcaaccagg ggcaaaggtc actggggttt
                                                                          240
gactaactgg ggctgagtgg cagctatgac tgtccttcag atttttgagt tgtttttgaa
                                                                          300
attaaaagct totaaaagtt goatcaacat cotoctaagc coccatagga ttgtaacacc
                                                                          360
accacaaaag gccaccaaca ctttttaaac aaagtgaaaa ctgtctgaca ccaatcatct
                                                                          420
tgaaaactcc atggcaagtg cattagctat gatttcatca cttacaggta gagaagctta
                                                                          480
ctgtctactg gtgtggg
                                                                          497
      <210> 214
      <211> 817
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (817)
      \langle 223 \rangle n = A,T,C or G
      <400> 214
ggeettanag etgetegneg geegeeatgt gatggatate tgeagaatte geeetttega
                                                                          120
geggeegeee gggeaggtae teteagteat atgeagaaat acttttttt taattaatag
ttacaggctt gttggtccag tgggatttgg gtagggggag aaagatacct tctaaaatgg
                                                                          180
atcaatagaa ccaaaataat acagcatgtt ctataaccac aaggaaatca aatgatcctg
                                                                          240
tcatgattcc agttagtcat aaccatgtta gcagtgctaa atgcatttta gaaatggtga
                                                                          300
                                                                          360
cttctgtggt tttcctagca tttgtctcta acaaatggtg aaataattac tcatggccct
ctctgccatt gtctttcatt ttttcacagt gaaattagac ccctttactt caccattctg
                                                                          420
ccactgcaaa ttaagtataa agaaaatagc aagagtgtcc acaccagtag acagtaagct
                                                                          480
tototacctg taagtgatga aatcatagot aatgcacttg coatggagtt ttcaagatga
                                                                          540
ttggtgtcag acagttttca ctttgtttaa aaagtgttgg tggccttttg tggtggtgtt acaatcctat gggggcttan gaggatgttg atgcaacttt tagaagcttt taatttcaaa
                                                                          600
                                                                          660
aacaactcaa aaatctgaag gacagtcata gctgccactc agccccagtt agtcaaaccc
                                                                          720
cagtgacctt tgcccctggt tgccaagggc tttgcaacat caagcangga aataaggatc
                                                                          780
tgnctgttag tgggataccg ggtatccttt aatagac
                                                                          817
      <210> 215
      <211> 495
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(495)
      <223> n = A,T,C or G
      <400> 215
actigacetg attacgecaa getiggiace gageteggat ecaetagiaa eggeegeeag
                                                                           60
tgtgctggaa ttcgccctta gcgtggtccg gccgaggtac catgctgact tcttggtatc
                                                                          120
ttttaaggcc taattttccc ttccttgaga ttactgtagt gtgttccagc taatttctat
                                                                          180
ttggaaacga gttggaacag ctgaaaacta ggtattattg aaggcaaagc agcctcacgt
                                                                          240
cagtttttta tcagctcatt tgggaagttt ttttttttt ttttttaatt aattagaaag
                                                                          300
taggetggge aeggtggete atgeetataa teecageaet tggggaggee gaggatetee
                                                                          360
tototggtgg atcacttgag ggcaggagtt aagagaccat cotggccaac atgatgaaac
                                                                          420
cctgtctcta ctaaaaatac aaaaagtagc tgggcgtggt ggcatactct tacaatccca
                                                                          480
gctacttggg aggcn
                                                                          495
```

```
<210> 216
      <211> 823
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (823)
      <223> n = A,T,C or G
      <400> 216
gggcctcaga gcatgctcgn cggccgccag tgtgatggat atctgcagaa ttcgcccttt
                                                                       60
                                                                      120
cgagcggccg cccgggcagg tactttttt tctttttta catctgattt taatgcttcg
ttaacttcaa aaggaactgg tagagttcag aaggtgagct gttgtttttc taaacctctt
                                                                      180
cccaggaagg ggacattgac acttgaattt ttgtcacctt tttcctcatt agaaggaaag
                                                                      240
taqaaaqoot tactgtagga titttaaaaa aaaatocato toaccocata tiggtottaa
                                                                      300
                                                                      360
ataagtatag actaattaac ctaagctacc tttaacaacg tagaatttag atgggttcat
atatgtgaga aaaacctgaa tataggacag gggtcctact tttttcccca cctctgtcgc
                                                                      420
ccaggetaga gtatagtggt gtgatettgg cccaetgeaa cetetgette etaggtteaa
                                                                      480
gtgattetee tgeeteagee teccaagtag etgggattgt aagagtatge caccaegeee
                                                                      540
                                                                      600
agctactttt tgtattttta gtagagacag ggtttcatca tgttggccag gatggtctct
taacteetge ceteaagtga tecaceagag aggagateet eggeetneee aagtgetggg
                                                                      660
720
aaaaacttnc caaatgagct gatnaaaaac tgacgtgang ctgctttgcc ttcaataata
                                                                      780
cctagttttc actggtccaa ctcgtttcca aatagaaatt acg
      <210> 217
      <211> 827
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(827)
      <223> n = A, T, C or G
      <400> 217
nnnnnnngge etntnnagea tgetegaegg eegecatgtg atggatatet geagaatteg
                                                                       60
cectttegag eggeegeeg ggeaggtact gtateattgg eagatgtgae gteacegaea
                                                                      120
                                                                      180
accagagtga agtggcggac aaaactgagg attacctgtg gctgaagttg aaccaagtgt
gttttgacga cgatggcacc agctccccac aagacaggct cactctctca cagttccaga
                                                                      240
agcagttgtt ggaagactat ggcgagtccc actttacggt gaaccagcaa cccttcctct
                                                                      300
acticcaagt cotifitectg acagegoagt tigaageage agtigectit citticegea
                                                                      360
                                                                      420
tggagegget gegetgeeat getgteeatg tageactggt getgtttgag etgaagetge
ttttaaagtc ctctggacag agtgctcagc tcctcagcca cgagcctggt gaccctcctt
                                                                      480
gettgeggeg getgaactte gtgeggetee teatgetgta ceteggeege gaccaegeta
                                                                      540
agggcgaatt ccagcacact ggcggccgtt actagtggat ccgagctcgg taccaagctt
                                                                      600
ggegtaatca tggtcatagc tgtttcctgt gtgaaattgt tatccgctca caattccaca
                                                                      660
caacatacga geeggaagea taaagtgtaa ageetggggt geetaatgag tgagetaact
                                                                      720
cacattaatt gegttgeget cactgeeege tttteaateg ggaaacetgt egtgeeaget
                                                                      780
gcattaatga atcggncaac gccccgggan aagcggtttg cgtattt
                                                                      827
      <210> 218
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <400> 218
cactigacet gattacgcca agettggtac egagetegga tecactagta aeggeegeca
                                                                      60
gtgtgctgga attcgccctt tegageggee geeegggeag gtaetttttt ttttttttt
                                                                      120
taattcccac aacaacccat ttcaaaatga gaaaactagg ttgagtgact tgtccacagt
                                                                      180
```

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tccaaagcta ataaaaatga tgaggcatat ttctcttctg ggcccactgt attcagttct
                                                                       240
                                                                       300
ttqttcttta cactqaqtqc cqaaaaaaaa aaatcagact attttgattc tagaaagtga
                                                                       360
galaattgaa aatgttaaca tättteteea aaactgatea gaetgtggag tetgteactt
ttttqqtata ataaaqqaqt ttqaaqaaac aaatqacatc attcctgatg atgqtagccc
                                                                        420
                                                                        480
actocaacaa aggogtatat atgtaggoaa gtttgaagat atotataaga goattaaaag
                                                                        498
gcaagtgcac cattgtgg
      <210> 219
      <211> 818
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (818)
      <223> n = A, T, C or G
ggcctntnga gctgctcgac ggccgccatg tgatggatat ctgcagaatt cgcccttagc
gtggcgcgc cgaggtacct agaaaacaga aacttgagta gacatggtaa tgaccagaaa
                                                                        120
aggetatett tatacattte tittgetäeg etteaaatte atgteaceta aaagttgtga
                                                                        180
agtgcacaaa acaaatctac ttaactgaaa attattttca atgaatggga tgtttagaac
                                                                        240
totgtgaggg tttttaaggt ottttogaat agcaaattot aatgaggott ttttaagttg
                                                                        360
gcaatttaaa ctcatacaag aaataaaaac tcaccagtgt ggctgggcag aatatatata
ttttctcaaa tattgtttgt ttgttttttc cctgcactgt atccatggtc ccatgatgaa
                                                                        420
                                                                        480
actgttatat tgctgatata tttattggaa tatgtgggcc aacttccttt ccactcaaca
tatggattgg tagtttaaaa taatteettt etattaagea aatgtgtgge taaggeacat
                                                                        540
                                                                        600
ttaaatagcc cattaaacca atgagatgac aatgtgttac cctcagagaa agcttaattt
ttggagtaat caattacaca tatcacagaa tgtctcatga gaacattttt ggctaggtct
                                                                        660
accaatttat catgcaaata attatagatt ttcatttgag gcaaagatgc tgattcatca
                                                                        720
ttagtaacat ggtcacaaat aatcatttat tttattttgg taacatctgt ctttcctgtg
                                                                        780
gggaaactta ctatatgctc tacgttaatt aaattaaa
                                                                        818
      <210> 220
      <211> 497
      <212> DNA
      <213> Homo Sapien
      <400> 220
cacttgacct gattacgcca agettggtac cgagetegga tecactagta aeggeegeca
                                                                         60
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacagccat gaaattgttg
                                                                        120
ctactcatag aaagtettag tatagtttgg tttaaacatt ttaaaattge aaataaatat
                                                                        180
agatagataa tatcatgatg agaaggtcac gggaagcctg gagatttcag ggtgctcttt
                                                                        240
cataattgga gcgagaatca tgtaacagtt aagaaactaa actcttgagc cttcatagtc
                                                                        300
tttgctttct ccccatttat ttatctgata ttatataccc tctttaatta tagactggac
                                                                        360
tgaaatattt tatttttgtt ttattataaa aaatcctact cgtctttaac atgttctctt
                                                                        420
aaagagtgtt tcatatataa atactttccc cccaaaatat aaagaggcta accactatag
                                                                        480
tattgaaaga ttgaaag
                                                                        497
      <210> 221
      <211> 831
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(831)
      \langle 223 \rangle n = A,T,C or G
      <400> 221
cnnnannggg cctntanagc atgctcgacg gccgccatgt gatggatatc tgcagaattc
                                                                         60
gecettageg tggtegegge egaggtacaa tgaaagtatg agetacetet etgaagtetg
                                                                        120
```

```
gaaaccttga gagtattaag gttacatgca taaaatcttt aaaatggaag tgtcattaca
                                                                       180
                                                                       240
tggtaaacca attcaaatta aaaataatct catgctgtga aagcaaaata tataactggt
ttacccattc ataggtaatt gcacgtettt gttacatetc aatagtttet ttgtatttgt
                                                                       300
                                                                       360
tgcaatcacc ctccttcttc tcaacactct tttctacctc catgtaactg ctgttgtgaa
                                                                       420
ttctttataa tattctcatc aatgtttaaa gatgaagttt aaagtgctta caaaggaagc
                                                                       480
attttaactc ctcttagaac tgagccttta aatttggttt tagacaccct aggtctttct
ttcaatcttt caatactata gtggttagcc tctttatatt ttggggggaa agtatttata
                                                                       540
                                                                       600
tatgaaacac totttaagag aacatgttaa agacgagtag gattttttat aataaaacaa
aaataaaata tttcagtcca gtctataatt aaagagggta tataatatca gataaataaa
                                                                       660
                                                                       720
tggggagaaa gcaaagacta tgaaggctca agagtttagt ttcttaactg gtacatgatt
ctcgctncaa ttatgaaaga gcaccctgaa atctncangc ttnccgtgac cttctcatca
                                                                       780
                                                                       831
tgatattatc tatctatatt tattgcaatt ttaaaatggt taaaccaaac n
      <210> 222
      <211> 497
      <212> DNA
      <213> Homo Sapien
      <400> 222
cacttgacct gattacgcca agettggtac cgagetegga tecactagta aeggeegeca
                                                                        60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt actctttctc tcccctcctc
                                                                       120
                                                                       180
tgaatttaat totttoaact tgoaatttgo aaggattaca catttoactg tgatgtatat
tgtgttgcaa aaaaaaagtg totttgttta aaattacttg gtttgtgaat coatcttgct
                                                                       240
                                                                       300
ttttccccat tggaactagt cattaaccca tctctgaact ggtagaaaaa catctgaaga
gctagtctat cggcatctga caggtgaatt ggatggttet cagaaccatt teacccagac
                                                                       360
                                                                       420
agcotgitto catcotgitt aataaattag titigggitot ciacatgoat aacaaaccot
                                                                       480
gctccaatct gtcacataaa agtctgtgac ttgaagttta gtcagcaccc ccaccaaact
                                                                       497
ttatttttct atgtgtt
      <210> 223
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(822)
      <223> n = A,T,C or G
      <400> 223
gggcctnaga gctgctcgnc ggccgccatg tgatggatat ctgcagaatt cgcccttcga
                                                                        60
geggeegeee gggeaggtae tttattttea aaaaacteat atgtegeaaa aaacacatag
                                                                       120
aaaaataaag tttggtgggg gtgctgacta aacttcaagt cacagacttt tatgtgacag
                                                                       180
attggagcag ggtttgttat gcatgtagag aacccaaact aatttattaa acaggatgga
                                                                       240
                                                                       300
aacaggctgt ctgggtgaaa tggttctgag aaccatccaa ttcacctgtc agatgccgat
agactagete treagatgtt trretaceag treagagatg ggttaatgae tagtrecaat
                                                                       360
ggggaaaaag caagatggat tcacaaacca agtaatttta aacaaagaca ctttttttt
                                                                       420
gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag ttgaaagaat
                                                                       480
                                                                       540
taaattcaga ggagggaga gaaagagtac ctcggccgcg accacgctaa gggcgaattc
cagcacactg geggeegtta ctagtggate egageteggt accaagettg gegtaateat
                                                                       600
ggtcatagct gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag
                                                                       660
ccggaagcat aaagtgtaaa gcctggggtg cctaatgagt gagctaactc acattaattg
                                                                       720
                                                                       780
cgttgcgctc actggccgct tttcagtcng gaaacctgtc gtgccagctg cattaatgaa
                                                                       822
teggecaacg egeeggaga ngengnttge gtattgggcc en
      <210> 224
      <211> 494
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
```

```
<222> (1)...(494)
      <223> n = A,T,C or G
      <400> 224
enettgaent gattaegeea agettggtae egagetegga teeetagtaa eggeegeeag
                                                                      60
tgtgctggaa ttegcectta gegtggtege ggeegaggta etttttttt ttttttaac
                                                                     120
caactcaata tgtgtttgat gatagtgaat tgataaaacc cgaagctttt ccctgtaaat
                                                                     180
cttacatctt tgcctttaaa gaatgggtta caaccatcac tagatcacag tagtgcctaa
                                                                     240
tgaaggttga gaaccgtagg agaggctctc atgctgtaaa taatgttgca ggctaataac
                                                                     300
ettteateae tteetttgtg egetteetge ettaagtgae aagtageaae atggettggg
                                                                     360
teccetgtge ageateaget tatgetgeca caagteagtt tgeaccetag gtgeccagga
                                                                     420
gctagtatcc ttagatcttt ctatcgctaa cttaattctc ttcgttattt atctgaccct
                                                                     480
ctaactccat gtct
                                                                     494
      <210> 225
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(822)
      <223> n = A, T, C \text{ or } G
gggccttnga gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgcccttcg
                                                                      60
agoggoogoo ogggoaggta otttaatttt gottgttcaa atgatotaca ottacatttt
                                                                     120
gcaaatettt ttttttaaat tttttaaatt ttatattttt tttccagcca actcaaggec
                                                                     180
240
gtccacagaa taagacacaa gaaacctcaa gctgtgaggt caatttgtaa ttaaaagaat
                                                                     300
actaagatta gatgaacaca acactcagaa atactctagg agagctgaaa aagaaggaac
                                                                     360
agatgttaac aaaacaaatt aaggctgctg gggaacctga gtccatgtta agcttgggtt
                                                                     420
gactgtaaag aattttttt tttaatgcaa gttagacatg gagttagagg gtcagataaa
                                                                     480
taacgaagag aattaagtta gcgatagaaa gatctaagga tactagctcc tgggcaccta
                                                                     540
gggtgcaaac tgacttgtgg cagcataagc tgatgctgca caggggaccc aagccatgtt
                                                                     600
gctacttgtc acttaaggca ggaagcgcac aaaggaagtg atgaaaggtt attagcctgc
                                                                     660
acattattta cagcatgaga gcctctccta cggttctcaa ccttcattag gcctactgtg
                                                                     720
atctantgat ggntgtaccc attctttaaa ggcaaagatg taaggattta cagggaaaag
                                                                     780
cttcgggttt tatcaattca ctatcatcaa acacatattg ng
                                                                     B22
      <210> 226
      <211> 498
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(498)
     <223> n = A, T, C or G
      <400> 226
anntaaacta tgacctgatt acgccaactt ggtaccgagc tcggatccac tagtaacggc
cgccagtgtg ctggaattcg ccctttcgag cggccgcccg ggcaggtacc ctctcatata
                                                                     120
tgcaaacaaa tgcagactag gcctcaggca gagactaaag gacatctctt ggggtgtcct
                                                                     180
gaagtgattt ggacccctga gggcagacac ctaagtagga atcccagtgg gaagcaaagc
                                                                     240
cataaggaag cccaggattc cttgtgatca ggaagtgggc caggaaggtc tgttccagct
                                                                     300
                                                                     360
cacatetnat etgeatgeag caeggaeegg atgegeeeae tgggtettgg etteeeteee
atotteteaa geagtgteet tgttgageea tttgcateet tggeteeagg tggeteeete
                                                                     420
                                                                     480
agtotggact ctaccacttg ggtotccaga ttttctgtta cgtccttgtg ggtcaggata
```

498

tttctggaag tcactccg
<210> 227

```
<211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A,T,C or G
      <400> 227
gggcctctna agctgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
cgtggtcgcg gccgaggtac attgatgggc tggagagcag ggtggcagcc tgttctgcac
                                                                        120
agaaccaaga attacagaaa aaagtccagg agctggagag gcacaacatc tccttggtag
                                                                        180
ctcagctccg ccagctgcag acgctaattg ctcaaacttc caacaaagct gcccagacca
                                                                        240
geactigigt titigationi ettititicee tygeteteat cateetgeee agetteagte
                                                                        300
cattccagag tcgaccagaa gctgggtctg aggattacca gcctcacgga gtgacttcca
                                                                        360
gaaatateet gaeecacaag gaegtaacag aaaatetgga gaeecaagtg gtagagteea
                                                                        420
gactgaggga gccacctgga gccaaggatg caaatggctc aacaaggaca ctgcttgaga
                                                                        480
agatgggagg gaagccaaga cccagtgggc gcatccggtc cgtgctgcat gcagatgaga
                                                                        540
tgtgagctgg aacagacctt cctggcccac ttctgatcac aaggaatcct gggcttcctt
                                                                        600
atggetttge ttecactggg attectactt aggtgtetge ceteaggggt ccaaatcact
                                                                        660
tcaggacacc ccaagagatg tcctttagtc tctgctgagg cctantctgc atttggttgc
                                                                        720
atatatgaaa aggtacctgc ccgggccggc cgttcnaang gcgaatttca gcacactggc
                                                                        780
ggncgntact agtggatccc aactcggtac caagc
                                                                        815
      <210> 228
      <211> 512
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(512)
      \langle 223 \rangle n = A,T,C or G
      <400> 228
annnnntttn acctannact atgacctgat tacgccaact tggtaccgag ctcggatcca
                                                                         60
ctagtaacgg ccgccagtgt gctggaattc gccctttcga gcggccgccc gggcaggtac
                                                                        120
taggtttgca aaaccaatag catgcacatg tgttgggctg aggttcatgt gtcagagact
                                                                        180
cagttgtaga aggaactttg aatctggcag gcacttaact gtggctgctc agaactaatg
                                                                        240
                                                                        300
tatetgggge tgettgagea ggggetgagg teagaggeag ggagtgaget etecateate
cttgactcag acccagetee geaggagete catggteate cetggagete atgtggagtg
                                                                        360
caaggtccgg gagtgggggc gctgacagaa acaaatctgg ggggatcagc cagggtcagc
                                                                        420
aggggacaga gatcatgtct tttagaagaa tgtgggcttc ctgacctata gaagggcagc
                                                                        480
tgttcacccc ctgcagatga tagcagggat ng
                                                                        512
      <210> 229
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(815)
      <223> n = A,T,C or G
      <400> 229
gggcctnaga gcatgctcga cggccgccat gtgatggata tctgcagaat tcgcccttag
                                                                         60
cgtggtcgcg gccgaggtac ttitttttt ttttttttt ttcagagata ggttcttact
                                                                        120
atgctgccct ggctggagtg cagtggcttt cttaggggca atcacagctc actgcagcct
                                                                        180
ggaactectg ggeteageet ectaagtagt tgagactace aatgeaegee accatacetg
                                                                        240
geettagata ecceetgtat eetggaaete acteettata agagacaetg aatgtggaag
                                                                        300
```

```
360
tettequaga tattaaggge actgeccagt teetgtettt gaattattgg gecaacaaca
                                                                       420
gaaaggeget cetgaggeec cagateatec etgetateat etgeaggggg tgaacagetg
                                                                       480
cccttctata ggtcaggaag cccacattct tctaaaagac atgatctctg tcccctgctg
                                                                       540
accetggetg atcecccag atttgtttet gteagegeee ceacteeegg accttgeact
                                                                        600
ccacatgage tecagggatg accatggage teetgeggag etgggtetga gteaaggatg
atggagaget cactecetge etntgacete ageecetget caagcageee cagatacatt
                                                                        660
                                                                        720
agttctgagc agcccagtta agtgcctgcc agattcaaag ttccttctac aactgagtct
                                                                       780
ctgacacatg aaccttaage ccaacacatg tgcatgctat tgggttttgc aaacctagta
                                                                        815
cctgnccggg cgggccgttc gaaanggcga attct
      <210> 230
      <211> 502
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(502)
      \langle 223 \rangle n = A,T,C or G
      <400> 230
tnnanctana cttgacctga ttacgccaac ttggtaccga gctcggatcc actagtaacg
                                                                         60
                                                                        120
geogecagtg tgctggaatt egecettteg ageggeegee egggeaggta cacagagatg
cggtccagct gcaggtcgct gtccccgtgg taggtgccgg tggggtcgat gccatgttca
                                                                        180
                                                                        240
tcactgatca cotoccagaa cttggcaccg atctggtagc cacactgacc agcctggatg
                                                                        300
tgcacqattt ccctcatggt taaaatttaa tttttttgct cgcctcaagg tatgtatggg
                                                                        360
gcaagaaaat aagtaatttt ttttctccgc aggtcgcagg ctggaaggtt ggaatgcgcc
ccagaggetg gagcagegag gtgcaaacge gaeggcagga aggttetgag ageccegegt
                                                                        420
                                                                        480
acctoggoog cgaccacgot aagggcgaat totgcagata tocatcacac tgcggccgct
                                                                        502
cgagcatgca tctagagggc cc
      <210> 231
      <211> 817
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(817)
      \langle 223 \rangle n = A,T,C or G
      <400> 231
nngggeetet nnagetgete gaeggeegee atgtgatgga tatetgeaga attegeeett
                                                                         60
agegtggteg eggeegaggt aegegggget eteagaacet teetgeegte gegtttgcac
                                                                        120
ctegetgete cageetetgg ggegeattee aacettecag cetgegaeet geggagaaaa
                                                                        180
                                                                        240
aaaattactt attttcttgc cccatacata ccttgaggcg agcaaaaaaa ttaaatttta
accatgaggg aaatcgtgca catccaggct ggtcagtgtg gctaccagat cggtgccaag
                                                                        300
                                                                        360
ttctgggagg tgatcagtga tgaacatggc atcgacccca ccggcaccta ccacggggac
                                                                        420
agegacetge agetggaceg catetetgtg tacetgeeeg ggeggeeget egaaagggeg
                                                                        480
aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa gcttggcgta
atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat
                                                                        540
acgageegga agcataaagt gtaaageetg gggtgeetaa tgagtgaget aacteacatt
                                                                        600
aattgegttg egeteactge eegettteea gtegggaaac etgtegtgee agetgeatta
                                                                        660
atgaatcggc caacgcgcgg ggagaggcng nttgcgtatt gggcgctctt ccgcttnctc
                                                                        720
gctcacttga ctcgcttgcg ctcggtcgtt cngcttgcgg cnanccggat tcagcttact
                                                                        780
                                                                        817
taaaggeggt aataceggtt atecaceaga attangg
      <210> 232
      <211> 481
      <212> DNA
      <213> Homo Sapien
```

```
<400> 232
actatgacet gattacgeca agettggtac egagetegga tecaetagta aeggeegeca
                                                                         60
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtacaaattt gttgtgtttt
                                                                        120
ttatgttcta ataatactga gacttctagg tcttaggtta atttttagga agatcttgca
                                                                        180
tgccatcagg agtaaatttt attgtggttc ttaatctgaa gttttcaagc tctqaaattc
                                                                        240
ataatccgca gtgtcagatt acgtagagga agatcttaca acattccatg tcaaatctgt
                                                                        300
taccatttat tggcatttag ttttcattta agaattgaac ataattattt ttattgtagc
                                                                        360
tatatagcat gtcagattaa atcatttaca acaaaagggg tgtgaaccta agactattta
                                                                        420
aatgtettat gagaaaattt cataaageea ttetettgte atteaggtee agaaacaaat
                                                                        480
                                                                        481
      <210> 233
      <211> 809
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(809)
      <223> n = A, T, C or G
      <400> 233
gggcctctnn agcatgctcg acggccgcca tgtgatggat atctgcagaa ttcgccctta
                                                                         60
gcgtggtcgc ggccgaggta caaaagatac tgttcacccc attagagaac tgatttgaaq
                                                                        120
ttactcttcc ctgtgagggc tctgtcatct taactgtatt cacatacttt caactgttcc
                                                                        180
ccttgctgct aacctcaggt tctttagttc atctatctgg cagagctgat ttggggaaaa
                                                                        240
caagacaaac cttgtcaggt tttcttaata aataagcagt tgtcatgttt caagagtttt
                                                                        300
agaaatgagc aataatcaag gaagaggaca acgattgcat acgtttataa tatttagaac
                                                                        360
atcttttgcc acaataaaca ctggaaacca cccacttgtg gacaccaaac atttggattt
                                                                        420
gtatattttg tggcattccc tcactctaat cctctcatcc ttaaaaattt tcagaaattt
                                                                        480
ttgcagcaac aaacactgat tgcaacatat gatttagggt agatttatga accattttt
                                                                        540
cactgaaata catcaacagg agtgagtagt ctgagtgacc accccagcat ggagaaaact
                                                                        600
gtagtttaca gattettetg gageattttt atttetagat tgeagtggaa gtetaacccc
                                                                        660
cettggagat gtetgeetta aagggtettt ggeeagggte etetgtagag ceatagteea
                                                                        720
gatctactct atttgngtgc tccttacaac atcagaacag caactctcaa tccggatcat
                                                                        780
cccagaatge cgctgagtca cagcgtggg
                                                                        809
      <210> 234
      <211> 482
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(482)
      <223> n = A, T, C \text{ or } G
      <400> 234
actatgacca tgattacgcc aagcttggta ccgagctcgg atccactagt aacggccgcc
                                                                        60
agtgtgctgg aattcgccct tcgagcggcc gcccgggcag gtactgaaaa gaagatagtg
                                                                        120
ccatttgaaa caacagatge atettttata cattttcaca agttngtttt teatattttt
                                                                       180
aaaggcccca tttatctgta acagtggtat ttttatttag agtatcggct acttaatata
                                                                       240
tacatgcaac aatatatgct ttaatagtca tttaactttt angaatattt catnacatta
                                                                       300
agtggttaag catagcgtta aaagagtgga atataaggaa tannaanntn tngaaaatac
                                                                       360
gctgctannt tcattngcan actatagtag aatggagatg cccataaaag tgatcattgc
                                                                        420
ccaactgaat tectaceeng aactaacatg tgatteteaa gtgggganaa atattattaa
                                                                       480
aa
                                                                        482
      <210> 235
      <211> 474
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1)...(474)
      \langle 223 \rangle n = A.T.C or G
      <400> 235
                                                                         60
acttgacctg attacgccaa gcttggtacc gagctcggat ccactagtaa cggccgccag
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta cattacttgg tgttaacatt
                                                                        120
                                                                        180
gttggcagtg gtagcccctt ttcagaaagc aacttgctgt aagtcagggt gtccgttcca
accttcaget agtgaaaagg tagtaacaaa tggtaaacaa gagaatgatt gtttaaacet
                                                                        240
atctgtggac acttaatgca actgtttaaa aatgataatc acgagttatg tagcaacgtg
                                                                        300
gaaatatatt tacagaacat taatggagaa gcagggacac gaagtatatt atactacagt
                                                                        360
tataactcaa cagtcattat atgccggtca tttaccagtc atttaaccag ttcattataa
                                                                        420
ctgtttaaaa atatatatgc ttatagtcaa aagctgttgt ggtgttgttg ttgn
                                                                        474
      <210> 236
      <211> 819
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (819)
      <223> n = A, T, C or G
      <400> 236
gggccttnna gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                         60
gagcggccgc cogggcaggt acttttttt tttttttt ttttttt tttttattt taactttatt
                                                                        120
tttattgntg acactattac agatagaatg accacaacca tattaacaaa ccaaaaacct
                                                                        180
gtgcacagaa acaagatgaa gaaaatatat caagatgtta aacactct ttggatggtg
                                                                        240
aaaacatggg tqagtttctc ttctacattt ctgtaacttc aaagtttcta taatgaacac
                                                                        300
                                                                        360
atttcatata taatggaaat atatgtagta aaggtggact accaaaacac tagaatgatg
acctttcaag gaaaccgaaa caaaataacc ataatcccac aacaaccaca caactatttc
                                                                        420
ttgnttttca tctttcttcc catctttgac atttatgcat acttatcact aacaccctaa
                                                                        480
taatcacaga ctagtgcaca gatcaagatg ttaacagtta attgttgttg ggtgttggga
                                                                        540
atatgtgtga attttcttta ctgaatttcc aaagttttgt atgagtatgt attatatttg
                                                                        600
taatggaaaa tacatacata aaatttatta ccaaaacacc aaagattatt taagggaatt
                                                                        660
tgagacaaaa tatttaacca aattcccaca atgacaacac tattttägtt attttccaca
                                                                        720
tetttteatt taagaettta tgeacacata tttaacactg gtateacaag cgtgggcact
                                                                        780
gaaacaagga tnganggaac nggatcagga tgttagccg
                                                                        819
      <210> 237
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (483)
      \langle 223 \rangle n = A,T,C or G
      <400> 237
                                                                         60
agettgacet gattaegeea agettggtae egagetegga tecaetagta aeggeegeea
                                                                        120
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt actaagctca gcatgtctca
                                                                        180
tggtcaatta ctgcgtattt ccaaaaaatg tgttgtttgg tcttgagaaa attctttagc
                                                                        240
cccttgacac cagaattatc tccactgtag aaaaaataga caattatagt ctaacaggta
                                                                        300
aatcacaaaa attottoago cacacttoot gggttoaaat gtggttttto tactoagtaa
tattgtaacc ctgggcaagt tatttaactt gtctaagtct cagtttctcc atctgtaaaa
                                                                        360
tgaggataat cacaatatet actacataat gttettetga agatgtaatg agataateca
                                                                        420
tgtnaaatat tcanacagca cataggaatg ggtcatttaa tgtttatcat tacttgccta
                                                                        480
ttt
                                                                        483
```

```
<210> 238
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (815)
      <223> n = A,T,C or G
      <400> 238
gggcccntnn agctgctcgn cggccgccag tgtgatggat atctgcagaa ttcgcccttt
                                                                        60
cgagcggccg cccgggcagg taccattatt tttcattcaa taccatatgt ctgaaaaata
                                                                       120
ggcaagtaat gataaacatt aaatgaccca ttcctatgtg ctgtctgaat attttacatg
                                                                       180
gattatetea ttacatette agaagaacat tatgtagtag atattgtgat tatecteatt
                                                                       240
ttacagatgg agaaactgag acttagacaa gttaaataac ttgcccaggg ttacaatatt
                                                                       300
                                                                       360
actgagtaga aaaaccacat ttgaacccag gaagtgtggc tgaagaattt ttgtgattta
cctgttagac tataattgtc tatttttct acagtggaga taattctggt gtcaaggggc
                                                                       420
taaagaattt totcaagacc aaacaacaca ttttttggaa atacgcagta attgaccatg
                                                                       480
agacatgctg agcttagtac ctcggccgcg accacgctaa gggcgaattc cagcacactg
                                                                       540
geggeegtta etagtggate egageteggt accaagettg gegtaateat ggtcataget
                                                                       600
gtttcctgtg tgaaattgtt atccgctcac aattccacac aacatacgag ccggaagcat
                                                                       660
aaagtgtaaa gcctggggtg cctaatgagt gagctaactc acattaattg cgttgcgctc
                                                                       720
                                                                       780
actgrocget trecagtegg gaaacetgte gtgccagetg cattaatgaa teggrocaecg
                                                                       815
cgccggggag aggcngnttg cgtattgggc gctct
      <210> 239
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (483)
      <223> n = A, T, C or G
      <400> 239
actatgacet gattacgcca agettggtac cgagetegga tecaetagta aeggeegeca
                                                                       120
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt actttttttt ttttttttt
tttttttttta gcgagcaagt atggnttatt acggacaaat ggtagaaaaa tgttactaat
                                                                       180
atccatagat aagttcctta agtcatgtag agagactgtt attaaaagtt tgctgcattt
                                                                       240
ttctattgaa tcaagaacta gctaccagtt acagtgcctt ctaaacacac agttagcttt
                                                                       300
getttateaa taaccaaata ataaactagg teecaatggt tttgteeaca tntagattgt
                                                                       360
                                                                       420
tcaggtgatc aggaactctt ttatttgtgt gctttagctt ttagttcttg gttatatctc
caaatacgaa aaagetgaga ggeteetaet geecceacaa agaaattaac agcaaacaga
                                                                       480
                                                                       483
ctt
      <210> 240
      <211> 815
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (815)
      <223> n = A, T, C or G
      <400> 240
gggcctntna gctgctcgac ggccgccatg tgatggatat ctgcagaatt cgccctttcg
                                                                        60
ageggeegee egggeaggta caaccateca geaggteeca gaacagtttt ettetggget
                                                                       120
ccaattatga aatgggggtt ggtgtgtgct ggattggctg atatggccag acctgcagaa
                                                                       180
```

```
aaacttagca cageteaate tgetgttttg atggetacag ggtttatttg gtcaagatae
                                                                        240
                                                                        300
tcacttgtaa ttattccaaa aaattggagt ctgtttgctg ttaatttctt tgtgggggca
gtaggageet eteagettit tegtatitigg agatataace aagaactaaa agetaaagea
                                                                        360
cacaaataaa agagtteetg ateacetgaa caatetagat gtggacaaaa ecattgggac
                                                                        420
ctagtttatt atttggttat tgataaagca aagctaactg tgtgtttaga aggcactgta
                                                                        480
actggtaget agttettgat teaatagaaa aatgeageaa aettttaata acagtetete
                                                                        540
tacatgactt aaggaactta tctatggata ttagtaacat ttttctacca tttgtccgta
                                                                        600
ataaaccata cttgctcgct aaaaaaaaaa aannnnnaaa aaaaaaagta cctcggccgc
                                                                        660
gaccacgota agggegaatt ccagcacact ggeggeegtt actagtggat ccgagetegg
                                                                        720
taccaagett ggegtaatca tgggteatag etggtteetg tgtgaaatgg tatccgntea
                                                                        780
caattncaca caacatacga accggaagcc ttaag
                                                                        815
      <210> 241
      <211> 486
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1)...(486)
      \langle 223 \rangle n = A,T,C or G
      <400> 241
agctatgacc atgattacgc caagcttggt accgageteg gatecactag taacggeege
                                                                         60
cagtgtgctg gaattcgccc ttagcggccg cccgggcagg tacttcccac cactggaaat
                                                                        120
gttagcataa aagaacttgg agaggaaaaa agtattaaca aaactgcagt ctgcactctt
                                                                        180
taaacctgtt taaggetett cateetggtt agcaaaaggt gtgaatgtaa tgtgatggaa
                                                                        240
tttaaaagtt ttatgagacc aggcacagtg gctcacgact gtaattccag cagtttagga
                                                                        300
                                                                        360
agecgaagtg tgeagateae etgaggteeg gagaceagee tggecaacat ggtgaaacce
tgtctctact agaaatacaa aaattagcca ggtgtggtgg cggggcctg taatcccaac
                                                                        420
tactcaggag gctgaggcta gagaatcact tgaacccagc angcggaggt tgcggtgagt
                                                                        480
                                                                        486
cganat
      <210> 242
      <211> 481
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(481)
      \langle 223 \rangle n = A,T,C or G
      <400> 242
antigacetg attacgccaa gettggtace gageteggat eectagtaac ggeegecagt
                                                                         60
gtgctggaat tcgcccttcg agcggccgcc cgggcaggta catcagtgtt cattttatta
                                                                        120
tttcttacac tgtcttcatg acttacacat aatattttgc tagttttaaa acataagatg
                                                                        180
                                                                        240
tgataataat ctaaacagac caaaggaaat aaatgaatat gattaaaaaa agacagagaa
taagooctgt otgatggaaa gcataacaaa gcaggtagaa caactgtcag gaatgottga
                                                                        300
tccaataaag ctaggtttgt gatccacaac acttcagcat tttaatgtga tttttgatgt
                                                                       360
tngctttttg caatggtgat tctcagttgc ctccctcctg tgtctttaca agctgaaatc
                                                                        420
aagtgaagct acttctgact ttttctaaaa cttaaaccca acatgaaggt ctgcgtattc
                                                                        480
                                                                        481
      <210> 243
      <211> 824
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(824)
```

<223> n = A,T,C or G

```
<400> 243
                                                                      60
cnanngggcc tntnnagcat gctcgacggc cgccatgtga tggatatctg cagaattcgc
ccttagcgtg gtcgcggccg aggtacataa tactttagat aaacattttt agaataactt
                                                                     120
                                                                     180
tattataact cgataagcaa aataatccaa acctttatac atttctacaa ggatagtcac
atatgtcaat titteggttt cetetegtge etattitgte teetgageeg geceetttee
                                                                     240
                                                                     300
agotgacacg tgtgctccgt gttctcccac aatagtgtga cctggcctga gtccatgccg
cogtgagect cettetgtg ettacaacag cageetgeet gatgteagtt atggaetatt
                                                                     360
                                                                      420
agagaccege tgetgttgca tcatggaaaa gtgccacata cgtgcacatg tgaaagaata
                                                                     480
                                                                      540
cgcagacctt catgttgggt ttaagtttta gaaaaagtca gaagtagctt cacttgattt
cagcttgtaa agacacagga gggaggcaac tgagaatcac cattgcaaaa agcaaacatc
                                                                      600
aaaaatcaca ttaaaatgct gaagtgttgt ggatcacaaa cctagcttta ttggatcaag
                                                                      660
cattectgae agttgtteta cetgettttg ttatgettte cateagacag ggettattet
                                                                      720
ctgtcttttt taatcatatt catttatttc ctttggtctg tttagattat tatcacatct
                                                                      780
tatgttttaa aactagcaaa atattatgtg taagtcatga agnt
                                                                      824
      <210> 244
      <211> 483
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (483)
      <223> n = A,T,C or G
      <400> 244
actatgacct gattacgcca agcttggtac cgagctcgga tccactagta acggcccgcc
                                                                      60
                                                                      120
agtgtgctgg aattcgccct ttcgagcggc cgcccgggca ggtacgcggg ggcagggtgt
                                                                      180
ttaatcqtcq ccaaqcqqqa cttactqcaa gctatcaaat ctgaggtctt attttgttga
                                                                      240
gtcgaaagtg aaattttcct ttggccaacg tgacagggct ttgtttggtg gtaaaaaggg
ttactagaca ecceteatte cactgecact ggagggegea ttteteaget ettgetette
                                                                      300
aaacctgctg aaaggaattc ctagatctaa acaccagcat ttgacattgt gcagcaaana
                                                                      360
aatgqttatg qanaaqccca qtccqctqct tgtangqcgg gagtttgtga ggcaatatta
                                                                      420
                                                                      480
tactttgctg aataaagctc cggaatattt acacaggttt tatggcagga attcttccta
                                                                      483
tgt
      <210> 245
      <211> 822
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(822)
      \langle 223 \rangle n = A,T,C or G
      <400> 245
ttgggccent nnagcatget cgacggccgc catgtgatgg atatetgcag aattegccet
                                                                       60.
                                                                      120
tagogtggtc geggccgagg tacttcccct cgaaacataa teggttttgc aattaagatt
ctctgaactg gttcagagtc atcaaaaacc acaaaaccaa aatttggaag ctttccccca
                                                                      180
                                                                      240
acaccettgg tattgatgeg aagtteeaca aegttteeaa aacteatgaa gaatteettt
                                                                      300
ageteatttt cateaatate atgtggcaag ttaccaacaa aaagttgatg actatetgga
                                                                      360
tagogaatta ttotaoggtt gtoagagtoa ttotgttoca tatotoctot gcotggtott
ggtcctctag gaggaaaacc aggtcgttct ctaggtcgtt gttcacgcac acgaggtggc
                                                                      420
tgagattgaa cttctggttt agcttcgact cttggctttg gtggttcttg tggcagagaa
                                                                      480
acaggitetg eeggaggagg agtagtagat tieteeteta gitettetaa gitettetee
                                                                      540
tocacttgtg gtttcagetc ttcagtcttt gtttcagatt ctggctcagg ttcaggttca
                                                                      600
tgagaggatt cttccaaagg ctcctctatg ccattagtca cagggtgagc ttcatagtaa
                                                                      660
ccactgttag cattttcttg cacaggttca ggagatggtt gnctttcttc ttggtcctct
```

```
totacticat offorgatio ficatoaaag ficangotoa gaatoaccaa acactinato
                                                                     780
                                                                     822
ttcataacga aacatatcat tgtgaacata aaatttattt gg
      <210> 246
      <211> 482
      <212> DNA
      <213> Homo Sapien
      <400> 246
actatgacct gattacgcca agcttggtac cgagctcgga tccactagta acggccgcca
                                                                      60
gtgtgctgga attcgccctt agcgtggtcg cggccgaggt acttttttt ttttttttt
                                                                     120
                                                                     180
aaccaactca atatgtgttt gatgatagtg aattgataaa acccgaagct tttccctgta
aatcttacat ctttgccttt aaagaatggg ttacaaccat cactagatca cagtagtgcc
                                                                     240
taatgaaggt tgagaaccgt aggagaggct ctcatgctgt aaataatgtt gcaggctaat
                                                                     300
                                                                     360
aacctttcat cacttccttt gtgcgcttcc tgccttaagt gacaagtagc aacatggctt
gggtcccctg tgcagcatca gcttatgctg ccacaagtca gtttgcaccc taggtgccca
                                                                     420
ggagctagta tecttagate tttetatege taaettaatt etettegtta tttatetgae
                                                                     480
                                                                     482
      <210> 247
      <211> 816
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(816)
      <223> n = A,T,C or G
      <400> 247
gggccttnga gctgctcgan cggccgccat gtgatggata tctgcagaat tcgccctttc
gagoggoogo cogggoaggt actttaattt tgottgttca aatgatotac acttacattt
                                                                     120
                                                                     180
tgcaaatctt ttttttaaat tttttaaatt ttatattttt tttccagcca actcaaggcc
240
                                                                     300
gtccacagaa taagacacaa gaaacctcaa gctgtgaggt caatttgtaa ttaaaagaat
actaagatta gatgaacaca acactcagaa atactctagg agggctgaaa aagaaggaac
                                                                     360
                                                                     420
agatgitaac aaaacaaatt aaggetgetg gggaacetga gtecatgita agettgggtt
gactgtaaag aattttttt tttttaatgc aagttagaca tggagttaga gggtcagata
                                                                     480
                                                                     540
aataacgaag agaattaagt tagcgataga aagatctaag gatactagct cctgggcacc
tagggtgcaa actgacttgt ggcagcataa gctgatgctg cacaggggac ccaagccatg
                                                                     600
ttgctacttg tcacttaagg caggaagcgc acaaaggaag tgatgaaagg ttattagcct
                                                                     660
gcaacattat ttacagcatg agageetete etaegggtet caacetteat taggeactae
                                                                     720
                                                                     780
tgngatctag tgatggttgt acccattctt taaaggcaaa gatgtaagat ttacagggaa
                                                                     816
aagcttcggg ttttatcaat cctatcatca acacng
      <210> 248
      <211> 482
      <212> DNA
      <213> Homo Sapien
      <400> 248
actatgacct gattacgcca agettggtac cgagetegga tecaetagta aeggeegeca
                                                                     120
gtgtgctgga attcgccctt tcgagcggcc gcccgggcag gtactctttg ggcattaatg
cettetetgt aattatatet egittitiget tggeagtgae etacceagta attgeategt
                                                                     180
                                                                     240
gtattgccat gaaaggtaaa cacattgtga actgaactta ccaagcagat tctgtgagaa
agcactggtt ggggctgaac actgttgaca catcattttt attggaagag tattaactgg
                                                                     300
tgeetettet gaaacacac aacceatatt cetetgetee eccaaagetg tttetgatee
                                                                     360
tgctgggagc aactaactag ttattatgca catctgctcc agacccagct ctttaacttc
                                                                     420
atggttttac agettgtttt ttettttet tttetttet tttttttaa aaaageacet
                                                                     480
tt
```

<210> 249

```
<211> 821
     <212> DNA
     <213> Homo Sapien
     <220>
     <221> misc_feature
     <222> (1) ... (821)
     <223> n = A,T,C or G
     <400> 249
ggcctctnag ctgctcgacg gccgccatgt gatggatatc tgcagaattc gcccttagcg
                                                                    60
                                                                   120
tggtcgcggc cgaggtactt tatgaatttg gggtaggtaa agtttgtatt ttatcttaaa
catgttttct atgatgaaaa ggaacaaaat tgtaaaaaat gaggatcttc cctctaaagg
                                                                   180
tttcaaagcg ttagaggaca tgcaattaaa tgttgttaca ccttgaacaa tgagcctctt
                                                                   240
gagtttgtag gaagggcaga ccggctccat taccaacaac tttggggtag aaagcacagc
                                                                   300
tctcctcttt tacccagcac aaatgcaatc ctgattataa aactatttgt gtttctaaat
                                                                   360
acaaccaaag gaaatottag agaaacataa attagaaacc tottttatta aggggaaaca
                                                                   420
480
aaaaccatga agttaaagag ctgggtctgg agcagatgtg cataataact agttagttgc
                                                                   540
tcccagcagg atcagaaaca gctttggggg agcagaggaa tatgggttgg tgtgtttcag
                                                                   600
                                                                   660
aagaggcacc agttaatact cttccaataa aaatgatgtg tcaacagtgt tcagccccaa
720
ggcaatacac gatgcaatta ctgggtaggt cactgccaag caaaaaccga agatntaatt
tcccgagaag gcattaatgc ccaaagagta cctgccccgg n
                                                                   821
      <210> 250
      <211> 481
      <212> DNA
      <213> Homo Sapien
     <400> 250
acttgacetg attacgecaa gettggtace gageteggat ecaetagtaa eggeegeeag
                                                                    60
                                                                   120
tgtgctggaa ttcgccctta gcgtggtcgc ggccgaggta caacattgat gttttaatat
agaatgaagt gottgotaca cagtcaagta aatcaacata tocattacca cacacacttt
                                                                   180
tcttttctga ggagcggtaa gagtacttta attttgcagt tattgattaa ttaaaaaaca
                                                                    240
                                                                    300
cagttqtttt cagcatttcc tagttacagt agtgcatagg aaattccatt ctaaacaaag
                                                                    360
aagtaattaa tgaaataaca acacacctta acattttaca ttgataggtt acagtttaca
aggtgettte acatacatta ttteatttga ttettacaac aageagaaaa aacagtggga
                                                                    420
aagatttttt ttttcaggct tacaatgagt attttcaggc caatgggcag ttaacacaag
                                                                    480
                                                                    481
      <210> 251
      <211> B03
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (803)
      <223> n = A, T, C or G
      <400> 251
gggccttnna gctgctcgnc ggccgccagt gtgatggata tctgcagaat tcgccctttc
                                                                     60
gageggeege eeggeaggta cactaaatta gaatattttt aaagtatgta acatteecag
                                                                    120
tttcagccac aatttagcca agaataagat aaaaacttga ataagaagta agtagcataa
                                                                    180
atcagtattt aacctaaaat tacatatttg aaacagaaga tattatgtta tgctcagtaa
                                                                    240
ataattaaga gatggcattg tgtaagaagg agccctagac tgaaagtcaa gacatctgaa
                                                                    300
tttcaggctg gaaaactatc agtatgatct cagcctcagt tetetigtet gtaaaatgga
                                                                    360
agaactggat taggcagttt gtaagattcc tcctaacttt cacagtcgat gacaagattg
                                                                    420
totttttato tgatattttg aagggtatat tgotttgaag taagtotcaa taaggcaata
                                                                    480
tattttaggg catctttctt cttatctctg acagtgttct taaaattatt tgaatatcat
                                                                    540
                                                                    600
aagageettg gtgtetgtee taatteettt eteacteace gatgetgaat acceagttga
```

```
atcaaactgt caacctacca aaaacgatat tgtggettat gggtattget gteteattet
                                                                       660
                                                                       720
tggtatattc ttgtgttaac tgcccatggc ctgaaaatac tcattgtaag cctgaaaaaa
aaaatettte eeactggttt ttetgettgg tgtaagaate aaatgaaata tggatgtgaa
                                                                       780
                                                                       803
agcccttgta actgtaccta tcn
      <210> 252
      <211> 500
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(500)
      <223> n = A, T, C or G
      <400> 252
tacnccaann tttgacctga ttacgccaag cttggtaccg agctcggatc cactagtaac
                                                                        60
                                                                       120
ggccgccagt gtgctggaat tcgcccttag cgtggtcgcg gccgaggtac agatgaaaag
aagtggtgtt aatgacctac ctgcaccgat aataaagcaa atagaatgat tatatacatt
                                                                       180
                                                                       240
aagatcagct tgattaaaaa taaattttat atgcaggtaa attgatcatt aaaatgaacc
cagtttaact cttctcgtgt gttgttttaa ggtaggccac tgaaacgcag agataaaatc
                                                                       300
anatggggaa aattaaaagc naagaaaaaa attacaaaac aagtgggtta agccatggat
                                                                       360
                                                                       420
tottaaccaa accotggact aaatgtgeca aagtgetttg aaaattteca etgecagena
tggntggtaa agtcantttg gcaaaaaaaa ggtggttnga aaaaaaactn accttttaaa
                                                                       480
                                                                       500
ttcccacctt ggatctggcn
      <210> 253
      2115 831
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(831)
      <223> n = A, T, C or G
      <400> 253
                                                                        60
gnnnnnnnn gnnnnnnnn ntttnnantg ggeetetnna geatgetega eggeegeeat
gtgatggata totgcagaat togcoottto gagoggoogo cogggcaggt actatatttg
                                                                        120
tgagcctagg gtaggggcac tgctgcaact tctgctttca tcccatgcct catcaatgag
                                                                        180
gaaagggaac aaagtgtata aaactgccac aattgtattt taattttgag gtatgatatt
ttcagatatt tcataatttc taacctctgt tctctcagta aacagaatgt ctgatcgatc
                                                                        300
                                                                        360
atgcagatac aatgttggta tttgagaggt tagttttttt tcctacactt ttttttgcca
actgacttaa caacattgct gtcaggtgga aatttcaagc acttttgcac atttagttca
                                                                        420
gtgtttgttg agaatccatg gcttaaccca cttgttttgc tattttttc tttgctttta
                                                                        480
attttcccca tctgatttta tctctgcgtt tcagtggcct accttaaaac aacacacgag
                                                                        540
aagagttaaa ctgggttcat tttaatgatc aatttacctg catataaaat ttattttaa
                                                                        600
tcaagctgat cttaatgtat ataatcattc tatttgcttt attatcggtg caggtaggtc
                                                                        660
                                                                        720
attaacacca cttcttttca tctgtacctc ggccgcgacc acgctaaggg cgaattccag
cacactggcg gcccgttact agtggatccg agctcggtac caagcttggc gtaatcatgg
                                                                        780
qtcataqctq tttcctqtqt qaaattggta tccgntcaca attcccacan g
      <210> 254
      <211> 514
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(514)
      <223> n = A,T,C or G
```

```
<400> 254
cacttgacnt gategecaac ttggtacega entegnntee attattaceg gacacttgae
tgatacgcca nettggtace gacteggace actagtaacg gnegecagtg tgetggaatt
                                                                        120
cgcccttgag cggccgcccg ggcaggtacc tctaatgcag gctaataaat ttaagctaat
                                                                        180
tatttatgct acctgtgctg tggtggtttc ctatcagcag ccaaatataa cctcacagtt
                                                                        240
gttttgctgt ttttgctttc acaaaagagc tattaaccaa cttaaaaatg ttttttgatt
                                                                        300
gaaggatgct taggggatga gaggatatca acaatataag cccatgccaa atccccattt
                                                                        360
cttatcatta aaactgacct gacattaaag caatgcttaa ttttttacca taaqaqtqaa
                                                                        420
attttgagat tataatttta aagtgtaaaa tatttacact taaattacac ttataatttt
                                                                        480
aaagtgtata atatttacac agattaaaat aaaa
                                                                        514
      <210> 255
      <211> 830
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (830)
      <223> n = A,T,C or G
      <400> 255
nnnnnngnen nnnnnnannn nnnnnnnant gggeetetnn agentgeteg acggeegeca
                                                                         60
tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta ctttttttt
                                                                        120
ttttccagat gaagtettge tetgttgeec aggetggage geagtggeac aateteaget
                                                                        180
cactgaaacc ttcgcccct gggctcaagc tagccagtct tttagtaaac atttagtcaa
                                                                        240
caaatctgca attataacgg aggtttgatt tttgttgttt ttgtttgttt ttaaqtcact
                                                                        300
ctgtgtttgt aatatcaatt tacttttcaa gtttagaatg ttttgcttca ttgtttccca
                                                                        360
tattttattt taatctgtgt aaatattata cactttaaaa ttataagtgt aatttaagtg
                                                                        420
taaatatttt acactttaaa attataatct caaaatttca ctcttatggt aaaaaattaa
                                                                        480
gcattgcttt aatgtcaggt cagttttaat gataagaaat ggggatttgg catgggctta
                                                                        540
tattgttgat atceteteat eccetaagea teetteaate aaaaaacatt tttaagttgg
                                                                        600
ttaatagete tittgigaaa geaaaaacag caaaacaact gigaggitat attiggetge
                                                                        660
tgataggaaa ccaccagc acaggtagca taaataatta gcttaaattt attagcctgc
                                                                        720
attagaggta cetgeceggg enggeegtea agggegaatt ceageacact ggeggeegtt
                                                                        780
ctagtggatc cgactcggtc cagcttgcgt aatcatggtc atagctgttg
                                                                        830
      <210> 256
      <211> 524
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (524)
      \langle 223 \rangle n = A,T,C or G
      <400> 256
commonne neutranach nonnnntngn nonnnagnon nonnnnnnn nonnnnnnan
                                                                        60
actatgactg attacgccan cttggtaccg actcggatcc actagtaacg gccgccagtg
                                                                       120
tgctggaatt cgcccttagc gtggtcgcgg ccgaggtaca ttacttggtg ttaacattgt
                                                                       180
tggcagtggt agcccctttt cagaaagcaa cttgctgtaa gtcagggtgt ccgttccaac
                                                                       240
cttcagccag tgaaaaggta gtaacaaatg gtaaacaaga gaatgattgt ttaaacctat
                                                                       300
ctgtggacac ttaatgcaac tgtttaaaaa tgataatcac gagttatgta gcaacgtgga
                                                                       360
aatatattta cagaacatta agtggagaaa gcaggacacg aaagtatatt tatactacag
                                                                       420
ttataactca acagttcatt tatatgctgn tcatttaaca gttcatttaa acagttcatt
                                                                       480
ataactgttt aaaaatatat atgcttatag tcaaaagctg ttgg
                                                                       524
      <210> 257
      <211> 814
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1)...(814)
      <223> n = A, T, C or G
      <400> 257
ntgggcctct agaagcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc
                                                                         60
ccttgagcgg ccgcccgggc aggtactttt ttttttttt ttttttttt tttgatattt
                                                                        120
attittaact ttattittat tgntgacact attacagata gaatgaccac aaccatatta
                                                                        180
acaaaccaaa aacctgtgca cagaaacaag atgaagaaaa tatatcaaga tgttaaccac
                                                                        240
actetttgga tggtgaaaac atgggtgagt ttetetteta catttetgta actteaaagt
                                                                        300
ttctataatg aacacatttc atatataatg gaaatatatg tagtaaaggt ggactaccaa
                                                                        360
aacactagaa tgatgacctt tcaaggaaac cgaaacaaaa taaccataat cccacaacaa
                                                                        420
ccacacaact atttcttgct tttcatcttt cttcccatct ttgacattta tgcatactta
tcactaacac cctaataatc acagactagt gcacagatca agatgttaac agttaattgt
                                                                        540
tgttgggtgt tgggaatatg tgtgaatttt ctttactgaa tttccaaagt tttgtatgag
                                                                        600
tatgtattat atttgtaatg gaaaatacat acataaaatt tattaccaaa acaccaaaga
                                                                        660
ttatttaagg aatttgagac aaaatattta accaaattcc cacaatgaca acactatttt
                                                                        720
agttattttc cacatctttt catttaaaga ctttatgcac acatatttaa cactgntatc
                                                                        780
acaagcgtgt gcactgnaac aggattgagg aaan
                                                                        814
      <210> 258
      <211> 474
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (474)
      \langle 223 \rangle n = A,T,C or G
      <400> 258
acagetatqa cetqattacq ceaagettqq taccqaqete qqatecacta qtaacqqccq
ccagtgtgct ggaattcgcc cttagcgtgg tcgcggncga ngtacattat ttggaggact
                                                                        120
taaaatctgn atgtggacat ggtcccaact tantgtccgt taactagtta tccaaattgt
                                                                        180
aanagetaca gaaageeeag ttgaggggta antgtgeetg gntcacacag cetgeaccet
                                                                        240
gtcacctcgg caatgagcca gtgtggggca ctggggactt ctaacccttg gattgctctt
                                                                        300
tttgacctgt gcataccttc taattgnaaa atatatttca gaccgagagt acntgcccgg
                                                                        360
geggeenete aaaagggega attetgeaaa tateeateae atggeggeeg ntngageatg
                                                                        420
catctaggag ggcncaattc ccctatagng agtngtatta caattcactg gcnc
                                                                        474
      <210> 259
      <211> 809
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(809)
      \langle 223 \rangle n = A,T,C or G
      <400> 259
ntgggcccnt agangcatgc tcgncggccg ccatgtgatg gatatctgca gaattcgccc
                                                                         60
tttcgagcgg ccgcccgggc aggtactcac ggtctgaaat atattttaca attagaaggt
                                                                        120
                                                                        180
atgeacaggt caaaaagage aatceaaggg ttagaagtee ceagtgeece acaetggete
attgccgagg tgacagggtg caggctgtgt gagccaggca cacttacccc tcaactgggc
                                                                        240
ttctgtagct ttacaatttg gataactagt tagcggacag tagttgggac atgtcacata
                                                                        300
cagatttgag tectecaata atgtaceteg geegegacea egetaaggge gaattecage
                                                                        360
acactggcgg cogttactag tggatccgag ctcggtacca agcttggcgt aatcatggtc
                                                                        420
atagetgttt cetgtgtgaa attgttatee geteacaatt ceacacaaca tacgageegg
aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat taattgcgtt
                                                                        540
```

```
600
gegeteactg coegetttee agtegggaaa cetgtegtge cagetgeatt aatgaategg
ccaacgcgcg gggagaggcg gtttgcgtat tgggcgctct tccgcttcct cgctcactga
                                                                       660
                                                                       720
ctcgctgcgc tcggtcgttc ggctgcggcg agcggtatca gctactcaaa ggcggtaata
cogttatnca cagaatcang ggatacgcag gaaagaacat gtgagcaaaa ngccacaaaa
                                                                       780
                                                                       809
ggccaggaac cgtaaaaagg ccgcgtttg
      <210> 260
      <211> 713
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(713)
      <223> n = A, T, C or G
      <400> 260
ctctttaaac gecagetega nteegannte tateentgae aannnnngtn eeggnetgga
                                                                        60
attegneett tegageggee geeegggeag gtaettgagt teatgggeat etetecegee
                                                                       120
gcctctcage ctatctgcac catgtctcac acgttcagtt gcagctctta ccgttttgaa
                                                                       180
ggcgcacgtg ggcaagaagt cctgggcagc acaagaaagt caatcacgtt gagacagaga
                                                                       240
gagcaggaga ggaagtgggc cccagtagaa gtgggcgaga gagcgttggg tgggaacgtg
                                                                       300
360
gaaagagana ganagaggga aaganaaaga gacagagaaa agaaactatt gttggttaaa
                                                                       420
atgccagcgg aaagtccatg ggggtgaatg agtccggcaa tggncangga gttagcagct
                                                                       480
tggcgtagtg tetttcactg ntttggctgt cttgagaata gcattenaen ccgactgtgg
                                                                       540
ttccccanca gactttagnc ngttgcccng ncttgaattg ccggaccaag gttaacatag
                                                                       600
getttteggn tetnaatatt tttggggetn gaatantegg aacentttgg getgggeeat
                                                                       660
ttaccogntn cnncntgggt nnnacatttt tnctggntaa tcccgccttt tng
                                                                       713
      <210> 261
      <211> 722
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (722)
      <223> n = A,T,C or G
      <400> 261
acgcanttag gtaccgagct cggatcccta gtaacggccg ccagtgtgct ggaattcgcc
                                                                        60
cttagcgtgg tegeggeeeg aggtaeteet eagecatgee gaaggteete tteegggaet
                                                                       120
cttcgatggc agacagcagg gcattgtcct tctcattctt caggaagccc tgcagctctt
                                                                       180
aaatttaagg agttacagaa cggtcgatgc tgncgatcac tgcagctctt ccaaaccttc
                                                                       240
ttatatgaga tgagetetgt eggaaceagt geteaagttt tteccaccee aaactgeetg
                                                                       300
aattgaggga tgggggtggg gagaaggaca gagagaagag aaaaagagag aaagaagana aaggaaaaga acaaccoctc tgcaagtgct gatgtgactg aagcactaaa gagtcaaatt
                                                                       360
                                                                       420
aaacaatgaa gattgcaggg tccctttaaa aagggtgcac tgcagncccc ngagcacanc
                                                                       480
nateceatte gnttgngeeg etneacanat tetagagaan tennecatea tgtttgaaan
                                                                       540
geneaaaant gatgggannt eeegnntaeg eggggaetta attetgeett gggaaateaa
                                                                       600
ggaanacttt gnttggangc ggcanttnaa anntggcett aagaangnng tgngaatttg
                                                                       660
ttggccaaac nantngaaag gtnttccggc cgatnggtcc ctgattttta aggattnnaa
                                                                       720
                                                                       722
nq
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      <211> 705
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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caaggaaaag ctctgctttc ttataaaatc tttttgagac agagtttccg ctcttgtcag

cacaggotgg agtgcaatgg cogtgatoto gactnaaccg naaccttegg cotgotgggt

600

660

```
720
tcaagtgatt ctctagncct caagcttctg agtaggttgg gattacaggc gcccggncaa
ccacacctgg gctaaatttt ggatttctan gn
                                                                         752
      <210> 265
      <211> 747
      <212> DNA
      <213> Homo Sapien
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      <221> misc_feature
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      \langle 223 \rangle n = A,T,C or G
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gngntttene nnngegetet anageatget egageggeeg ceagtgtgat ggatatetge
                                                                         120
agaattegee ettagegtgg tegeggeega ggtacetttg atnatteeta gacetetatt
ttcattctgt gtattaatgt gaataacaga tggatattgt aatatttaag gcagatggta
                                                                         180
aactttccta taggtcttgt gagactnent cttatagget gaacaccatt nacnanntgt
                                                                         240
antaatgett natteettea ggengaggth nanaaettga geacetggat tageageage
                                                                         300
                                                                         360
tgcgaagaat gaaatgcngc ctaacatgta attatgnatc tctgnccttc ctttgggcca
gggtagtnat gcnctagaca cantggatga tangccatna agcctgannn tgnaatgatc
                                                                         420
taaacccnaa totnncagca otttattagg otantoacta ggcatottta agagtnggtt
                                                                         480
ccenttaata etagneaece nnecaeteca aaananette aagganaage tntgntntnt
                                                                         540
tanaaaatet tttegnnaca cantttnach ettggegene angetggant geaatggeeg
                                                                         600
tgatctctac tcacccgaan cctcngactg ctgagttcaa gtgattgtct gnccttanct
                                                                         660
ctccgggacc angnttnggg attancaagc ctcgcgggca annacaggtg nctaattgnt
                                                                         720
tgcattngcn taaaatnagg acaccng
                                                                         747
      <210> 266
      <211> 738
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(738)
      \langle 223 \rangle n = A,T,C or G
      <400> 266
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                                                                          60
eggeegeeag tgtgatggat atetgeagaa ttegeeettt egageggeeg eeegggeagg
                                                                         120
tacagctgaa gtttgataac aaagaaatat atataagaca aaaatagaca agagttaaca
                                                                         180
ataaaaacac aactatotgt tgacataaca tatggaaact ttttgtcaga aagctacatc
                                                                         240
ttottaatot gattgtocaa atoattaaaa tatggatgat toagtgocat tttgccagaa
                                                                         300
attegtttgg etggateata gattaacatt ttegagagea aatecaagee atttteatee
                                                                         360
aagtttttga catgggatgc taggcttctg gtttccattt gggaaatgta ttcttatagt
                                                                         420
cctgtaaaga ttccacttct ggccacactt cattattggg agtgcccaaa gctctgaaat
                                                                         480
                                                                         540
cetgaagagt tgatcaatte tgaateceat ggaaaagtgg ttettagtge tagtcaacaa
atatnggngc ctatactcca aaggtcactt ggagttgagt natggagctg accccagcat
                                                                         600
                                                                         660
acttttggaa aactggacca agtggttgca ccaccnttaa aaaatttaaa accggnngta
ttttaaataa ggtggaagaa accttttcct tttttattta aggaattcac ttagcnctta
                                                                         720
ctaaattcat ggtggggg
                                                                         738
      <210> 267
      <211> 731
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (731)
      \langle 223 \rangle n = A,T,C or G
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gcagaattcg ccctttcgag cggccgcccg ggcaggtaca gctgaagttt gataacaaag
                                                                     120
aaatatatat aagacaaaaa tagacaagag ttaacaataa aaacacaact atctgttgac
ataacatatg gaaacttttt gtcagaaagc tacatcttct taatctgatt gtccaaatca
                                                                     240
ttaaaatatg gatgattcag tgccattttg ccagaaattc gtttggctgg atcatagatt
                                                                     300
aacattttcg agagcaaatc caagccattt tcatccaagt ttttgacatg ggatgctagg
                                                                    360
cttectggtt tocatttggg aaatgtatte ttatagteet gtaaagatte caettetgge
                                                                     420
cacacttcat tattgggagt gcccaaagct ctgaaaatcc tgaagagttg atcaatttct
                                                                     480
gaateeccat ggaaaagtgg tttettagtt getagtteag caaatatggt geetataete
                                                                     540
caaatgtcaa ctggagttga gtaatgagct gaccccagca atacttctgg agatctgtca
                                                                    600
agtggttgca acaccattaa aaaatataaa agcagtagtt atattaaaat aatgttgaag
                                                                     660
aaaacatatn cctatatatt tnaaggaatt tcactaagca ctactaaatt tcatgttgtt
                                                                     720
gggangngtt a
                                                                     731
      <210> 268
      <211> 745
      <212> DNA
      <213> Homo Sapien
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      <221> misc_feature
      <222> (1)...(745)
      \langle 223 \rangle n = A,T,C or G
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gnnnnnntaa agnanachte actatannge gaattgggee etetagatge atgetegage
                                                                     60
ggccgccagt gtgatggata tctgcagaat tcgccctttg agcggccgcc cgggcaggta
                                                                    120
cttcccacac aggtttgttg taaaaattaa gtgagctaat gtgtataaaa tacttcagtg
                                                                     180
ctgaataaat gttggctttt attatatatt gttaaaaaac aacacaggct gggtatgata
                                                                    240
gctcacgcct ataatcctag catttaggga ggccaaggca ggaggattgc ttgagtccag
                                                                    300
gggtttgaga ccagcctggg caacatagtg agaccctatc tctacaaaat aaaataaatt
                                                                    360
agttgggcat ggtggcacat gcctgtagtc ccagctactc aggaggctga ggtgggagga
                                                                    420
ttgcttgagc ccaggaggta gaggttgcag tgagctgtga tcacaccact gcactccagc
                                                                    480
540
aaaaatccag taaagacaga gattcctaaa attctacaat tctaaaaacc agtagggctc
                                                                    600
actgaatata agagaggcaa gcaaaaaatt actccaatat tttgagtttg ggtaacctgg
                                                                    660
aatatgggtc atttattgag taaatagtta ctgagtccta actatgtgcc acacactggg
                                                                    720
ttaacacttg gcactgtctc ttatg
                                                                    745
      <210> 269
      <211> 730
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (730)
      \langle 223 \rangle n = A,T,C or G
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                                                                     60
ctgcagaatt cgccctttga gcggccgccc gggcaggtac ttcccacaca ggtttgttgt
                                                                    120
aaaaattaag tgagctaatg tgtataaaat acttcagtgc tgaataaatg ttggctttta
                                                                    180
ttatatattg ttaaaaaaca acacaggctg ggtatgatag ctcacgccta taatcctagc
                                                                    240
atttagggag gccaaggcag gaggattgct tgagtccagg ggtttgagac cagcctgggc
                                                                    300
aacatagtga gaccctatct ctacaaaata aaataaatta gttgggcatg gtggcacatg
                                                                    360
cctgtagtcc cagctactca ggaggctgag gtgggaggat tgcttgagcc caggaggtag
                                                                    420
aggitgcagt gagctgtgat cacaccactg cactccageg teggtgaegg agtgagaacc
                                                                    480
540
attectaaaa ttetacaatt etaaaaaeca gtagggetea etgaatataa gagaggeaag
                                                                    600
```

```
660
caaaaaatta ctccaatatt ttgagtttgg gtaacctgga atatggtcat tattgagtna
atagttactg agtoctacta tgtgcccaca ctgggtnaac acttgcactg tctcttatga
                                                                         720
                                                                         730
aatcttccan
      <210> 270
      <211> 713
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (713)
      <223> n = A,T,C or G
      <400> 270
aattgggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt
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cgccctttcg agcggccgcc cgggcaggta caaaccaata gctcctattc tggaaggttt
                                                                         120
totttttatt taaaaaaaat toaaacaagg ttaaaagtca agcaagaagg gaagagagaa
                                                                         180
actgggttct gagaaaaaaa tgtgccagta taaaataaac tcctaaatgc gtgcttgtca
                                                                         240
                                                                         300
tectetagtt tttttttaa gttgaattte ttttecactg taacttaaga tttgagattg
aggittgcgg tccagaacat accetcagea gatacagtga ctaactggaa agtgcagttg
                                                                         360
ttcaaggtct gtcatgctca atcacctaaa gctataattt gnttgatata ttaagcatgt
                                                                         420
agacctagtg cagcatggga gccactcagg aagtttatgc aattaataaa ctttcagcat
                                                                         480
aatttactat gaagtatgca gaatttcacc ctcttctcca cacttaacat ttagttgtat
                                                                         540
atgtgaactc tcctttctta attggggaat gtagcattat atagaatgtt gntaaaggta attttaatcc tttttgacat taaccttttt tttttttggn aaaccaagtg atctgccttt
                                                                         600
                                                                          660
cagcaactgg cttattttgg gtctttgaaa ctgngatttt tatttcattn gnc
                                                                          713
      <210> 271
      <211> 702
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(702)
      <223> n = A,T,C or G
      <400> 271
gnetegageg geogecagtg tgatggatat etgeagaatt egecettteg ageggeegee
cgggcaggta caaaccaata gctcctattc tggaaggttt tctttttatt taaaaaaaat
                                                                          120
tcaaacaagg ttaaaagtca agcaagaagg gaagagagaa actgggttet gagaaaaaaa
                                                                          180
tgtgccagta taaaataaac tcctaaatgc gtgcttgtca tcctctagtt tttttttaa
                                                                          240
gttgaatttc ttttccactg taacttaaga tttgagattg aggtttgcgg tccagaacat
                                                                          300
acceteagea gatacagtga etaactggaa agtgeagttg tteaaggtet gteatgetea
                                                                          360
                                                                          420
atcaccctaa agctataatt tgtttgatat attaagcatg tagacctagt gcagcatggg
agccactcag gaagtttatg caattaataa actttcagca taatttacta tgaagtatgc
                                                                          480
                                                                          540
agaatttcac cctcttctcc acacttaaca tttagttgta tatgtgaact ctcctttctt
aattggggaa tgtncattat atagaatgtt ggtaaaggta attttaatcc tttttgacat
                                                                          600
taaccttttt ttttttttgg taaaccaagt gatetgnett ttaacaactg gettatttgg
                                                                          660
gteetttgna actgggaatt ttattteatt tgnnectegg cc
                                                                          702
       <210> 272
       <211> 736
       <212> DNA
       <213> Homo Sapien
      <220>
       <221> misc_feature
       <222> (1) ... (736)
       <223> n = A,T,C or G
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gnnntttgan nnnnnnnnn ntatagggeg aattgggeee tetagatgea tgetegageg
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gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta
                                                                      120
                                                                      180
ctttttttta ttcctcagtt aaaacatgcc tgttattctt tttgtaatac ttaagcaatt
ttattttaaa gatatactac ttagttcatc cgtctccact tgtttttttt ttttgnnant
                                                                      240
anngggttgg tteenttaan necaenggtt ttaaaneeat nntngtennn ggnaaattan
                                                                      300
                                                                      360
nnttantnat taaanntnnn tnncntngca aanntccagn taaaatttta gtggggggg
ggggttantt acnggnaann aattaantne nggnnaatan tttaannntt ggnaangnae
                                                                      420
                                                                      480
nntngnnnta annattattt nnttnanntt tttaataann annaatttta ntttgnaacn
ntggtnttta ntaannggaa annccaatta attggttggt tgnatttttc ccagnaaccn
                                                                      540
                                                                       600
ntcentggge nggaaennee ntangggnaa nttenagnnn ntngngggen gtnennaggg
nnnccaacht nggcccanch tggnggaann nnnggcnnna nnggttccch ggggnaaatg
                                                                       660
                                                                       720
gtattengtt enaateenne aantteeaae eeggagnett aangggtaan neenggggg
                                                                       736
cntanngagn gcctaa
      <210> 273
      <211> 715
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (715)
      <223> n = A,T,C or G
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                                                                        60
agaattogoo otttogagog googoooggg caggtacttt tttttattoo toagttaaaa
                                                                       120
catgootgtt attotttttg taatacttaa gcaattttat tttaaagata tactacttag
                                                                       180
                                                                       240
ttcatccgtc tccacttgtt ttttttttt gnnantanng ggttggttcc nttaanncna
cnggtnttaa anccannnnn gtcnnnggna aattannntt antcnntaaa nntnnnnnnc
                                                                       300
ntggnaannn tocagntaaa atttnagtgg ggggggggg ttaattancg gnaannantt
                                                                       360
aantnccgga naatanttta annnttggna angnachttn gnnntaagna ttatttnntt
                                                                       420
cannttttta atnantanna attttaattt gnaancntgg nntttannaa nnggaaannc
                                                                       480
caattaattg gttggttgna tttttcccag naaccnnncc ntgggcngga acancentaa
                                                                       540
                                                                       600
ggncaaatcn accaantgnc ggccgtacna aggggatcca acntnggccc ancctggnng
naataatggc cnaantggtt nccngggnna aatggnattc cgttcaaatt ccnccanntc
                                                                       660
                                                                       715
cnacccggag ccttaagngg taaacctggg ggcctaangg ggggcctaac tcaat
      <210> 274
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (7.46)
      <223> n = A, T, C or G
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                                                                        60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                       120
ccaggtgggc tgacgcacat cccctaaaca ttctggatct cttactcatc gtgaaaggca
                                                                       180
gacgototaa gtotaaagto tagggtagga gtttocatto tttggaaaac caaagatggt
                                                                       240
tactettett aatgaaactg agaagaaggt atetacagaa aacaetgaat ttaaacaaat
                                                                       300
tatgacettg tttgttgaag ccatcaagga cccaagatat atcaaagaac aacatetetg
                                                                       360
                                                                       420
tattggccta caggttcaga gtgttttgag gtctgtttaa gcactaatag gattttaggc
                                                                       480
cagcatccag tcagaagaga tagttcacag actcagagtt ggaaacagat taaaaaaaaa
aagatgtcaa catagaaaat gatgatagag tttagttaaa aaaattcaca cataaaatta
                                                                       540
cagttaaaaa aattcacaca taaaatagag tgtttgcata gcaagacatt attgcccttc
                                                                       600
agcotggoag aaaaacataa actoaggtgt atattttata ataaacattg nattgaatgo
                                                                       660
                                                                       720
taagaatgat acactggtga acatctnctg aatggttgcc ttcttgtaaa tcataccaat
```

746

```
tggttagaca attgaaattn ccagct
      <210> 275
      <211> 725
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(725)
      <223> n = A, T, C or G
      <400> 275
                                                                        60
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                                                                       120
cagaattcgc ccttagcgtg gtcgcggccg aggtaccagg tgggctgacg cacatcccct
aaacattetg gatetettae teategtgaa aggeagaege tetaagteta aagtetaggg
                                                                       180
taggagtttc cattetttgg aaaaccaaag atggttactc ttettaatga aactgagaag
                                                                        240
                                                                       300
aaqqtatcta caqaaaacac tqaatttaaa caaattatga ccttgtttgt tgaagccatc
                                                                       360
aaggacccaa gatatatcaa agaacaacat ctctgtattg gcctacaggt tcagagtgtt
ttgaggtetg tttaagcact aataggattt taggccagca tccagtcaga agagatagtt
                                                                       420
cacagactca gagttggaaa cagattaaaa aaaaaaagat gtcaacatag aaaatgatga
                                                                        480
                                                                       540
tagagtttag ttaaaaaaat tcacacataa aattacagtt aaaaaaaattc acacataaaa
tagagtgttt gcatagcaag acattattgc ccttcagcct ggcagaaaaa cataaactca
                                                                        600
                                                                       660
qqtqtatatt ttataataaa cattgnattg aatgctaaga atgatcactg ttgaacatct
cctgaatggt ttgccttctt gtaaatcata ccaatggtta gacaattgaa attccagctc
                                                                        720
                                                                        725
tttct
      <210> 276
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A,T,C or G
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nnnnntgann gtatacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                        60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                        120
cttctgctgt ggtaactcaa gtaaccctcc gtttaaacca ggacagacct atgctgacaa
                                                                        180
ccatttttat cactcttagt ggtattttct ttctttgaac atgaatgcat atttctgctc
                                                                        240
                                                                        300
tttaatggcc tttggtattt aagattacat tcagctagtc tccttattgc atgttgtttt
                                                                        360
attocagtoc caccagcact cagaacaaca gcaagtgtgt gtaacagcgg gcacaggcgc
tccagacgga aggacctcac tgacgcagtt agctcaggta gagcttattt ctgtgttcaa
                                                                        420
                                                                        480
ttttcttgtc atgagaagca gtgaccccta agaatttgta tccctttgtt cacttctttg
                                                                        540
ttttaggaga gaaacttcta aagcattact ctaaaaggtg atagagacag agacgggcca
                                                                        600
ttttcatcta ccccttgcag agttaagttt tattacagta agttgtgagg tgagacatga
tggctgcagg cacatagtca agatctaccc ttctaaggaa ataaaacggg gaaaagtggt
                                                                        660
                                                                        720
tqaatqtcca atataqaaaa tttaatcacc actttcccaa aaaagaataa atggaggact
                                                                        744
ncattggaat tatggaaatg aaan
      <210> 277
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(724)
      <223> n = A, T, C or G
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```
<400> 277
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                                                                         120
tgcagaattc gcccttagcg tggtcgcggc cgaggtactt ctgctgtggt aactcaagta
acceteegtt taaaccagga cagacetatg etgacaacca tttttateac tettagtggt
                                                                         180
attitette titgaacatg aatgeatati tetgetetti aatggeetti ggtattaag attacattea getagtetee tiattgeatg tigititati eeagteeeae eageacteag
                                                                         240
                                                                         300
                                                                         360
aacaacagca agtgtgtgta acagegggea caggegetee agaeggaagg aceteactga
cgcagttagc tcaggtagag cttatttctg tgttcaattt tcttgtcatg agaagcagtg
                                                                         420
accectaaga attigtatee ctttgtteac ttetttgttt taggagagaa acttetaaag
                                                                         480
                                                                         540
cattactcta aaaggtgata gagacagaga cgggccattt tcatctaccc cttgcagagt
                                                                         600
taagttttat tacagtaagt tgtgaggtga gacatgatgg ctgcaggcac atagtcaaga
                                                                         660
tctacccttc taaggaaata aaacggggaa aagtggttga atgtccaata tagaaaattt
                                                                         720
aatcaccact ttccaaaaaa gaataaatgg aggactncat tgtaattatg gaaatgaaat
                                                                          724
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      <211> 748
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(748)
      <223> n = A,T,C \text{ or } G
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cggcccgcca gtgtgatgga tatctgcaga attcgccctt tcgagcggcc gcccgggcag
                                                                          120
gtacagctgc ccaagggcgt tcgtaacggg aatgccgaag cgtgtgaaaa agggagcggt
                                                                          180
ggcggaagac ggggatgagc tcaggacaga gccagaggcc aagaagagta agacggccgc
                                                                          240
aaagaaaaat gacaaagagg cagcaggaga gggcccagcc ctgtatgagg accccccaga
                                                                          300
tcagaaaacc tcacccagtg gcaaacctgc cacactcaag atctgctctt ggaatgtgga
                                                                          360
tgggcttcga gcctggatta agaagaaagg attagattgg gtaaaggaag aagccccaga
                                                                          420
tatactgtgc cttcaagaga ccaaatgttc agagaacaaa ctaccagctg aacttcagga
                                                                          480
                                                                          540
getgeetgga eteteteate aataetggte ageteetteg gacaaggaag ggtactagea
                                                                          600
actaaccatg gttaaaaggt cttagtcaga attacaaaaa caaaacattt agagtaatac
ttatgaatac aagcataatt ggtteetege ettetacaaa taaccatett gaaaatgata
                                                                          660
aaagcaggtt tcaactgtgg tettetetea ttgagaaggt gcagatacae atgggtgate
                                                                          720
                                                                          748
tactgattta ccttcttgaa agtnctcg
      <210> 279
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (727)
      <223> n = A,T,C \text{ or } G
      <400> 279
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                                                                           60
geagaatteg ceetttegag eggeegeeeg ggeaggtaca getgeeeaag ggegttegta
                                                                          120
                                                                          180
acgggaatgc cgaagcgtgt gaaaaaggga gcggtggcgg aagacgggga tgagctcagg
acagagecag aggecaagaa gagtaagaeg geegeaaaga aaaatgacaa agaggeagea
                                                                          240
ggagagggcc cagccctgta tgaggacccc ccagatcaga aaacctcacc cagtggcaaa
                                                                          300
cctgccacac tcaagatctg ctcttggaat gtggatgggc ttcgagcctg gattaagaag
                                                                          360
                                                                          420
aaaggattag attgggtaaa ggaagaagcc ccagatatac tgtgccttca agagaccaaa
tgttcagaga acaaactacc agctgaactt caggagctgc ctggactctc tcatcaatac
                                                                          480
                                                                          540
tggtcagctc cttcggacaa ggaagggtac tagcaactaa ccatggttaa aaggtcttag
tcagaattac aaaaacaaaa catttagagt aatacttatg aatcaagcat aattggttcc
                                                                          600
                                                                          660
tegeetteta caaataccat etttgaaaat gatnaaaage aggttteaac tgtggttett
```

```
ctctcanttg aaaaggtcag atcccatggg tgatctactg atttaccttc tgaaaagtac
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                                                                      727
ttggccg
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      <211> 751
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (751)
      <223> n = A,T,C or G
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                                                                       60
eggeegeeag tgtgatggat atetgeagaa ttegeeetta gegtggtege ggeegaggta
                                                                      120
ctcatgtatt tttttttt tccagatctc tttccccaag ttgctattgt aagagtattc
                                                                      180
tgctgcgtgt ggatgcagtt atacacatta aagcagatct ggagtctgaa gtagctataa
                                                                      240
agcagctata aaacagaaat acatgcatag ctgcagaaac catgataggt agaggacttt
                                                                      300
tettttggtt ttgttttgtt ttgttttgtt ttgtttttgg ttitacagag aagagatttt
                                                                      360
tattacaaag aaaaaaattc cagtgaattg tgcagaaatg ctggttttta caccatccta
                                                                      420
aagaaaaact ttacaagggt gttttggagt agaaaaaagg ttataaagtt ggaatcttaa
                                                                      480
attgtaaaat taaccattga gtgtcaaagt tctaaaagca gaactcattt tgtgcaatga
                                                                      540
acataaggaa agactactgn ataggttttt tttttctcct tttaaatgaa gaaaagcttt
                                                                      600
gcttaagggt tgcatacttt tattggagta aatctgaatg atcctactcc tttggagtaa
                                                                      660
aactagtgct taccagtttc caattggatt taacttctgg ggtggaattt ggaaaaaaa
                                                                      720
agaannnngg aaaaagaaaa cctaanttaa n
                                                                      751
      <210> 281
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <221> misc_feature
      <222> (1) ... (727)
      \langle 223 \rangle n = A,T,C or G
      <400> 281
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cagaattege cettagegtg gtegeggeeg aggtacteat gtatttttt tttttccag
                                                                      120
atctctttcc ccaagttgct attgtaagag tattctgctg cgtgtggatg cagttataca
                                                                     180
cattaaagca gatctggagt ctgaagtagc tataaagcag ctataaaaca gaaatacatg
                                                                      240
300
ttgttttgtt tttggtttta cagagaagag atttttatta caaagaaaaa aattccagtg
                                                                     360
aattgtgcag aaatgctggt ttttacacca tcctaaagaa aaactttaca agggtgtttt
                                                                      420
ggagtagaaa aaaggttata aagttggaat cttaaattgt aaaattaacc attgagtgtc
                                                                      480
aaagttctaa aagcagaact cattttgtgc aatgaacata aggaaagact actgnatagg
                                                                     540
ttttttttt ctccttttaa atgaagaaaa gctttgctta agggttgcat acttttattg
                                                                     600
gagtaaatct gaatgatcct actcctttgg agtaaaacta gngcttccag tttccaattg
                                                                      660
gatttaactt ctggntggaa tttgnaaaaa aaagaanaaa aggaaaanga aaccctaant
                                                                      720
naaatag
                                                                     727
      <210> 282 <211> 749
      <212> DNA
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      <220>
      <221> misc_feature
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      <223> n = A, T, C or G
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geggeegeea gtgtgatgga tatetgeaga attetneett egageggeeg eeegggeagg
                                                                       120
                                                                       180
tacttttttt ttttttttt tttttttt tttttnaaac tactaggatt tactgtagga
taaaagctnt acatggccct gcntacaaac tttctgcata cttctgcaaa tttttatgcn
                                                                       240
ttactnaatc cattaaaaat caccttggaa naaactgcaa acncantana aactaaatga
                                                                       300
natagtoaca gagaacanca aaaatagtaa ttnaagttoo catacaacat caagtgtgtn
                                                                       360
                                                                       420
cagtctattt tnggttcttc gggttctctt taaaattgaa ttgagtttgn atatgcatat
gtatgtagga gtggaggatg gaattaatta tcccaaacat cctacantca ctcctctaat
                                                                       480
atttetting traacatgea aatetgitet etteatracg gngatactge attracatta
                                                                       540
caacacantt agagateatt aactttetee tttataatea gecattttea caggeetttg
                                                                       600
atatacaage acctataata tattettaet cateteacae ttteatttae caaagtgtea
                                                                       660
aaacaacatt tttacatcat tgatatttgg ttnantttct gcaanctggc tgttanaaaa
                                                                       720
                                                                       749
tgattacttc tnttaaatta ccttttanc
      <210> 283
      <211> 730
      <212> DNA
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      <220>
      <221> misc_feature
      <222> (1)...(730)
      \langle 223 \rangle n = A,T,C or G
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cagaattcgc ccttcgagcg gccgcccggg caggtacttt ttttttttt ttttttttt
                                                                       120
tttttttttc aaactactag gatttactgt aggataaaag ctntacatgg ccctgcatac
                                                                       180
aaactttntg catacttntg caaattttta tgcattactc aatccattaa aaatcacctt
                                                                       240
ggaanaaact gcaaacncaa tagaaactaa atganatagt cacagagaac aacaaaaata
                                                                       300
gtaatttaag ttcccataca acatcaagtg tgttcagtct atttttggtt cttcgggttc
                                                                       360
totttaaaat tgaattgagt ttgtatatgc atatgtatgt aggantggag gatggaatta
                                                                       420
attateccaa acatectaca etcaeteete taatatttet tttgttaaca tgcaaatetg
                                                                       480
ttctcttcat tacggngata ctgcatttac attacaacac aattagagat cattaacttt
                                                                       540
ctcctttata atcagccatt ttcacaggcc tttgatatac aagcacctat aatatattct
                                                                       600
                                                                       660
tactcatctt acactttcat ttaccaaagt gtcaaaaaca acatttttac atcattggat
atttggttta gtttctgcaa nctggctttt anaaaaatga ttacttctct taaattacct
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                                                                       730
tttaccctca
      <210> 284
      <211> 739
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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      <223> n = A,T,C or G
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                                                                        60
                                                                       120
ggccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
aacataaagc aacagagagg tetteatgtt tgggaagtgg etgggeagga tgeeaaacce
                                                                       180
caaatgactt attgagcaat ttctaaacca aacagagagg taggaaaaga ggatgggggt
                                                                       240
caggggtgga ggctgtggaa aggggagagc gagggctgaa gagaatggca gccatacagg
                                                                       300
tgttttgttt ttatttccac atctgaggac tgagagtctg atttgctgcc tgtccatttc
                                                                       360
cgccactcat tgactgtcca tagttcatca tgccattggc tccatagaag ttcatcccag
                                                                       420
ccatctgctg ggtcatctga gtaaggttcc attgcagctg ctgagctggc tggaccccat
                                                                       480
acacagtoty gggcatagot gocatgooty coatgtagoc agootyotyg gtggtcatca
                                                                       540
ttccattcgg cacacccatc attgatgcct gcatgccacc catatagcct gcaggcatgg
                                                                       600
```

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660
ccatgggggc aaccatccca gaactnetge tgagcaacca tgeetactgg tggaagcate
atgetteeca ttatgetgtt angangtgta cecengggaa aetggggtag etgtgggata
                                                                       720
                                                                       739
tccatctgan ccggaccat
      <210> 285
      <211> 721
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(721)
      <223> n = A, T, C or G
      <400> 285
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cagaattcgc ccttagcgtg gtcgcggcac gaggtacaac ataaagcaac agagaggtct
                                                                       120
tcatgtttgg gaagtggctg ggcaggatgc caaaccccaa atgacttatt gagcaatttc
                                                                       180
                                                                       240
taaaccaaac agagaggtag gaaaagagga tggggggtcag gggtggaggc tgtggaaagg
ggagagcgag ggctgaagag aatggcagcc atacaggtgt tttgttttta tttccacatc
                                                                       300
tgaggactga gagtctgatt tgctgcctgt ccatttccgc cactcattga ctgtccatag
                                                                       360
ttcatcatgc cattggctcc atagaagttc atcccagcca tctgctgggt catctgagta
                                                                       420
aggttccatt gcagctgctg agctggctgg accccataca cagtctgggg catagctgcc
                                                                       480
atgeotgeca tgtagecage ctgctgggtg gtcatcattc catteggcac acceatcatt
                                                                       540
                                                                       600
gatgeetgea tgecacccat atageetgea ngeatggeea tgggggeaac cateccagaa
                                                                       660
ctcctggctg agcaaccatg cctactggtg gangcatcat gcttcccatt atgctgttag
gangtgtacc ccggggaanc tggggtagct gtgggatatc catttaaccg gagccatgaa
                                                                       720
                                                                       721
      <210> 286
      <211> 757
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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      <223> n = A,T,C or G
      <400> 286
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                                                                        60
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                                                                       120
                                                                       180
gacgcggggg ttgcaccatg gcgtccatgg ggaccctcgc cttcgatgaa tatgggcgcc
ctticctcat catcaaggat caggaccgca agtcccgtct tatgggactt gaggccctca
                                                                       240
                                                                       300
agtotoatat aatggoagoa aaggotgtag caaatacaat gagaacatca cttggaccaa
atgggcttga taagatgatg gtggataagg atggggatgt gactgtaact aatgatgggg
                                                                       360
ccaccatctt aagcatgatg gatgttgatc atcagattgc caagctgatg gtggaactgt
                                                                       420
ccaagtotca ggatgatgaa attggagatg gaaccacagg agtggttgtc ctggctggtg
                                                                       480
ccttgttaga agaagcggag caattgctag accgaggcat tcacccaatc agaatagccc
                                                                       540
gatggctatg agcaggctgc tcgcgttgct attgaacacc tggacaagat cagcgatagc
                                                                       600
                                                                       660
gtccttgttg acataaagga caccgaaccc ctgattcaga cagcaaaaaa ccacgctggg
                                                                       720
cttncaaaag tggtcaacag ttgtcaccga cagatggctt gaaaattgct gtgaaatgcc
cgtccttact gtaaccagat atngaaccgg aaaagac
                                                                       757
      <210> 287
      <211> 726
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (726)
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PCT/US99/13181 WO 99/64594 122 <223> n = A,T,C or G<400> 287 gnnnnactga tttctggctc gaagttgnat ntgcggncgc cagtgtgatg gatatctgca 60 120 gaattegeee tttegagegg eegeeeggge aggacgeggg ggttgeacea tggegteeat ggggaccete geettegatg aatatgggeg ceettteete atcateaagg atcaggaceg 180 240 caagtcccgt cttatgggac ttgaggccct caagtctcat ataatggcag caaaggctgt agcaaataca atgagaacat cacttggacc aaatgggctt gataagatga tggtggataa ggatggggat gtgactgtaa ctaatgatgg ggccaccatc ttaagcatga tggatgttga 300 360 tcatcagatt gccaagctga tggtggaact gtccaagtct caggatgatg aaattggaga 420 480 tggaaccaca ggagtggttg tcctggctgg tgccttgtta gaagaagcgg agcaattgct agaccgaggc attcacccaa tcagaatagc ccgatggcta tgagcaggct gctcgcgttg 540 600 ctattgaaca cctggacaag atcagcgata gcgtccttgn tgacataaag gacaccgaac 660 ccctgattca gacagcaaaa accacgctgg gctccaaaag tggtcaacag ttgtcaccga cagatggctg aaaatgctgt gaatgccgtc ctnctgtanc agatatngaa ccggaaaaga 720 726 ccttga <210> 288 <211> 743 <212> DNA <213> Homo Sapien <220> <221> misc_feature <222> (1) ... (743) $\langle 223 \rangle$ n = A,T,C or G <400> 288 gnnntganng tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc

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<210> 289 <211> 726 <212> DNA <213> Homo Sapien

<221> misc_feature
<222> (1)...(726)
<223> n = A,T,C or G

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gtotgaccto tgotoctoat aatcagatta actoagataa agotgottoa gggaagaggt
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caaaaccgtt gccaaaaata qtaqttqccc tacttcagtc tattttcaac agagtagcca
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                                                                        720
ggagatetgt teacaceaaa gtecaateag cectaetggt ageactetge teacaageet
ncagtg
                                                                        726
      <210> 290
      <211> 740
      <212> DNA
      <213 > Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (740)
      <223> n = A, T, C or G
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                                                                         60
ggccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                        120
                                                                        180
ccagatgtet tteteggtea cettecegag accatttaag accteectag etgetegtte
tecageetea actgeeeett ecatgtagee getecaettt gtggeagtet etgtgeeege
                                                                        240
aaagaaaatc ctgcccacgg gttgacgaat caccettcca tattgagtca tgatcccagg
                                                                        300
agggaagtag geogtgtage ageceecaga gtacetgeec gggeggeege tegaaaggge
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gaattccage acactggcgg ccgttactag tggatccgag ctcggtacca agcttggcgt
                                                                        420
aatcatggtc atagctgttt cctgtgtgaa attgttatcc gctcacaatt ccacacaaca
                                                                        480
tacgagccgg aagcataaag tgtaaagcct ggggtgccta atgagtgagc taactcacat
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taattgcgtt gcgctcactg cccgctttcc agtcgggaaa cctgtcgtgc cagctgcatt
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aatgaatcgg ccaacgcgcc ggggagaggc ggnttgcgta ttgggcgctc ttncgctttc
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tngctcactg actogctgcg ctcggtcgtt cggctgcggc nagcggtatc agctcattaa
                                                                        720
angeggtaat aeggtateen
      <210> 291
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (724)
      <223> n = A, T, C or G
      <400> 291
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                                                                         60
cagaattege cettagegtg gtegeggeeg aggtacecag atgtetttet eggteacett
                                                                        120
cccgagacca tttaagacct ccctagctgc tcgttctcca gcctcaactg ccccttccat
                                                                        180
gtageogete cactitigting cantititity geoegeaaan aaaateetge ceaenggittig
                                                                        240
acgaatcacc cttccatatt gagtcatgat cccaggaggg aagtaggccg tgtagcagcc
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cccagagtac ctgcccgggc ggccgctcga aagggcgaat tccagcacac tggcggccgt
                                                                        360
tactagtgga toogageteg graceaaget tggcgtaate atggceatag etgttteetg
                                                                        420
tgtgaaattg ttatccgctc acaattccac acaacatacg agccggaagc ataaagtgta
                                                                        480
aagcetgggg tgeetaatga gtgagetaac teacattaat tgegttgege teactgeeeg
                                                                        540
ctttecagte gggaaacetg tegtgecage tgcattaatg aateggecaa egegegggga
                                                                        600
gaggeggttt gegtattggg egetetteeg etteeteget caetgaeteg etgegettng
                                                                        660
nccgtccggt tgcggcagcg gtataactna ctcaaaggcg gtaataccgg tatncacaga
                                                                        720
                                                                        724
      <210> 292
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
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<222> (1) . . . (740)
      <223> n = A,T,C or G
      <400> 292
gnnnngnang tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
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ggcccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                       120
                                                                       180
cagaaagaat caaagaacat atatatatat taagtttcat tccaacctac aaagagcctg
cacttaaaag tottaaaggt ttootgaatc atggaatotc aacttacotg ccaattaatc
                                                                       240
cagttetete tttttaaatg cagactecaa eettaaacag aaggeatatt etagetgaet
                                                                       300
tctaagtgtg tccaaagcat acctcagaga gccaagtggt ctgtgttcaa tacctattct
                                                                       360
                                                                       420
ttctatagaa tctcaaaagt ggcagtatga tgaaaagaaa agctactttt tctcctaaaa
ataccccct tcatcatcag tgtgttgtca tttttgcatc acaaagaata gacattctaa
                                                                       480
                                                                       540
atgttccctt ccacacagaa agacataaga gagaatgtga gtatgagtga gagtgtgtag
gtaagttgag ggatagtttg ctatccaaaa tgaatcattt tgaagatgac tttgtaaaga
                                                                       600
                                                                       660
agtaatatag ttaaaaatct caagacatga gattgangan ggcagggaaa taaaggacct
angaatggaa aagagttaca gcccatgtga atacatacac aaacctacca ggttatttct
                                                                       720
                                                                       740
gngaattctc acacaggttg
      <210> 293
      <211> 723
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(723)
      <223> n = A,T,C or G
      <400> 293
gnnnnnnnn annggeeete tagatgeatg etegagegge egeeagtgtg atggatatet
gcagaattcg cccttagcgt ggtcgcggcc gaggtacaga aagaatcaaa gaacatatat
                                                                       120
atatattaag titcattoca acctacaaag agootgoact taaaagtott aaaggtitco
                                                                        180
tgaatcatgg aatctcaact tacctgccaa ttaatccagt tetetetttt taaatgcaga
                                                                        240
ctccaacctt aaacagaagg catattctag ctgacttcta agtgtgtcca aagcatacct
                                                                        300
cagagageca agtggtetgt gttcaatace tattetttet atagaatete aaaagtggca
                                                                        360
                                                                        420
gtatgatgaa aagaaaagct actttttctc ctaaaaatac ccccttcat catcagtgtg
ttgtcatttt tgcatcacaa agaatagaca ttctaaatgt tcccttccac acagaaagac
                                                                        480
                                                                        540
ataagagaga atgtgagtat gagtgagagt gtgtaggtaa gttgagggat agtttgctat
ccaaaatgaa tcattttgaa gatgactttg taaagaagta atatagttaa aaatctcaag
                                                                        600
agcatgagat tganganggc agggaaataa angcctagga atggaaaaga gttaacagcc
                                                                        660
catgtgaata catagcacaa acctaccagg ttatttctgg gaatctnacc agtttgctgg
                                                                        720
                                                                        723
aaa
      <210> 294
      <211> 736
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(736)
      \langle 223 \rangle n = A,T,C or G
      <400> 294
gnnnnnnnna gaccgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                         60
gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta
                                                                        120
cctgggatta caggcaccca ccaccacgcc tggctaattt ttttttgtat ctttagtagg
                                                                        180
gttttgccat gttggccagg ctggtcttta actcctacct cgtgatccac ccgcctcggc
                                                                        240
cccccaaagt gctaggacca caggegtgag ccaccacged cagecccetg telettitt
                                                                        300
taaaacacaa tttaaaagca gaaagaaaaa atctgtgctg tttagactca gattcttaat
                                                                        360
tagctagtat ttcttaattc aatcaataaa ttattaagac etttteaetg eteeettttt
                                                                        420
aaagtottot tiggagtgat tiaagtgott ottattacca agetotcaaa gagaagataa
                                                                        480
```

```
aattaaaatc tgatgggtaa ccatttaaat aagacaactg gggtaaccca tttctccagg
                                                                       540
acceptetet geaacagaga getattetet ttetttggce tagtaaacet etgetettaa
                                                                       600
cetttaaaaa aaaaaaaaa gtacetegge egegaceaeg etaanggega atteeageae
                                                                       660
actggeggee gttactagtg gateegaact eggteeaact tggegtaate atggeatagt
                                                                       720
                                                                       736
ggttcctgng tgaaan
      <210> 295
      <211> 725
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (725)
      <223> n = A,T,C or G
      <400> 295
gnnnnnnnn anngngeeet etagatgeat getegagegg eegeeagtgt gatggatate
                                                                        60
tgcagaattc gccctttcga gcggccgccc gggcaggtac ctgggattac aggcacccac
                                                                       120
caccacgeet ggetaatttt tttttgtate tttagtaggg ttttgecatg ttggccagge
                                                                       180
                                                                       240
tggtctttaa ctcctacctc gtgatccacc cgcctcggcc ccccaaagtg ctaggaccac
aggogtgagc caccacgccc agcccctgt ctctttttt aaaacacaat ttaaaagcag
                                                                       300
aaaqaaaaaa totgtgotgt ttaqactcaq attottaatt agotaqtatt tottaattca
                                                                       360
atcaataaat tattaagacc ttttcactgc tcccttttta aagtcttctt tggagtgatt
                                                                       420
taagtgette ttattaccaa geteteaaag agaagataaa attaaaatet gatgggtaac
                                                                       480
catttaaata agacaactgg ggtaacccat ttctccagga cccctctctg caacagagag
                                                                       540
ctattctctt tctttggcct agtaaacctc tgctcttaac ctttaaaaaa aaaaaaaaag
                                                                       600
tacctoggec gegaceaege taagggegaa ttecageaea etggeggeeg ttactagtgg
                                                                       660
atcogaacto ggtaccaago ttgogtaato atggcatago tggttootgt gtgaaatggt
                                                                       720
atccg
                                                                       725
      <210> 296
      <211> 742
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(742)
      <223> n = A,T,C or G
      <400> 296
gnnnnnnnn nnacaaanct gggtagggcg aattgggccc tctagatgca tgctcgagcg
gccgccagtg tgatggatat ctgcagaatt cgccctttcg agcggccgcc cgggcaggta
                                                                       120
ccatgctgac ttcttggtat cttttaaggc ctaattttcc cttccttgag attactgtag
                                                                       180
tgtgttccag ctaatttcta tttggaaacg agttggaaca gctgaaaact aggtattatt
                                                                       240
gaaggcaaag cagcctcacg tcagtttttt atcagctcat ttgggaagtt ttttttttt
                                                                       300
ttttttttta attaattaga aagtaggetg ggeaeggtgg eteatgeeta taateeeage
                                                                       360
acttggggag geogaggate teetetetgg tggateaett gagggeagga gttaaggage
                                                                       420
catcotggcc aacatgatga aaccotgtot ctactaaaaa tacaaaaagt agotgggcgt
                                                                       480
ggtggcatac tottacaato coagotactt gggaggotga ggcaggagaa toacttgaac
                                                                       540
ctaggaagca gaggttgcag tgggccaaga tcacaccact atactctagc ctgggcgaca
                                                                       600
gaagtgggga aaaaagtagg acccetgtee tatatteang gtttteteac atatatgaac
                                                                       660
ccatctaaat totacgttgg taaaaggaac ctaaggttaa ttagnotata cttatttaag
                                                                       720
aaccattntg gggnggagat gg
                                                                       742
      <210> 297
      <211> 728
      <212> DNA
      <213> Homo Sapien
      <220>
```

```
<221> misc_feature
      <222> (1)...(728)
      <223> n = A,T,C or G
     <400> 297
tnnnntttga annchachet etagngeatg etegagegge egeeagtgtg atggatatet
gcagaattcg ccctttcgag cggccgcccg ggcaggtacc atgctgactt cttggtatct
                                                                       120
                                                                       180
tttaaggcct aattttccct tccttgagat tactgtagtg tgttccagct aatttctatt
tggaaacgag ttggaacagc tgaaaactag gtattattga aggcaaagca gcctcacgtc
                                                                       240
agttttttat cagctcattt gggaagtttt ttttttttt ttttttaat taattagaaa
gtaggctggg cacggtggct catgcctata atcccagcac ttggggaggc cgaggatcte
                                                                       360
                                                                       420
ctctctggtg gatcacttga gggcaggagt taagagacca tcctggccaa catgatgaaa
                                                                       480
ccctgtctct actaaaaata caaaaagtag ctgggcgtgg tggcatactc ttacaatccc
agctacttgg gaggetgagg caggagaatc acttgaacct aggaagcaga ggttgcagtg
                                                                       540
                                                                       600
ggccaagatc acaccactat actctagcct gggcgacaga agtggggaaa aaagtaggac
ccctgtccta tattcangtt tttctcacat atatgaaccc atctaaattc tacgttggta
                                                                       660
aaggtanctt aagttaatta gnctatactt atttaaganc aatatggggt gaaaatggat
                                                                       720
ttttttn
      <210> 298
      <211> 745
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(745)
      \langle 223 \rangle n = A,T,C or G
      <400> 298
                                                                        60
gnnnnnttna nnnnatacga ctcactatat agggcgaatt gggccctcta gatgcatgct
cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttagcgtgg tcgcggccga
                                                                       120
                                                                       180
ggtacccacg ttttgctcca cactccttga ccgcaggggc tcggacacaa acccctgtca
                                                                       240
ccaggagagt cagtcagcac tacttgggag ggctaaaggg aaatttggaa ataaaattcc
aaagtttgga gtaaaaaaat tcaagtgttg attttatatt ctttcccttt ctgacacagc
                                                                       300
ctaaagcgta gggggaacat gtgtttatct gtgggagata aacaagatgg agtcccaaag
                                                                       360
actttaacaa aatatttttt taaaaaatcca ctagaataga aaatacatta tttagatata
                                                                       420
ctttatgctg agagtgagta tatatgcttg tcctatttaa acttgtgaga aaaagtggta
                                                                       480
                                                                       540
tcccttgata catttagaaa tatgggggct atcttgtttc attgtggggg tggggcagaa
ggagaataaa tgcaggatga ccctgttgaa ggaatcttag catggccaac aggggacgtt
                                                                       600
tccagtcgat taccaggaaa tgcaagcctt ggggtttcta ctggtggtgg ggctgtcatg
                                                                       660
aactttaaaa tocaaagoot agacaaggaa aagtgttaga ccaattgaaa agcaatccac
                                                                       720
cctttttttt ttttttttt ggctt
      <210> 299
      <211> 733
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (733)
      <223> n = A, T, C or G
      <400> 299
gnnnnnnnn nnnnnncct ctagatgctg ctcgaacggc cgccagtgtg atggatatct
                                                                        60
gcagaattcg cccttagcgt ggtcgcggcc gaggtaccca cgttttgctc cacactcctt
                                                                       120
gaccgcaggg gctcggacac aaacccctgt caccaggaga gtcagtcagc actacttggg
                                                                       180
agggctaaag ggaaatttgg aaataaaatt ccaaagtttg gagtaaaaaa attcaagtgt
                                                                       240
tgattttata ttctttccct ttctgacaca gcctaaagcg tagggggaac atgtgtttat
                                                                       300
ctgtgggaga taaacaagat ggagtcccaa agactttaac aaaatatttt tttaaaaatc
                                                                       360
cactagaata gaaaatacat tatttagata tactttatgc tgagagtgag tatatatgct
                                                                       420
```

```
480
tgtcctattt aaacttgtga gaaaaagtgg tatcccttga tacatttaga aatatggggg
ctatcttgtt tcattgtggg ggtggggcag aaggagaata aatgccagga tgaccctgtt
gaaggaatct tancatggcc aacaggggac gtttccagtc gattaccagg aaatgcaagc
                                                                            540
                                                                            600
                                                                            660
cttggggttt ctactggtgg tggggctgtc atgaacnttt aaaatccaaa gcctagacca
                                                                            720
aggaaaagtg ttaganccan tggaaaagcc attccagccc tttttttttn nnnntttttg
gcttttcacc aca
                                                                            773
       <210> 300
       <211> 741
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1) ... (741)
       \langle 223 \rangle n = A,T,C or G
       <400> 300
gnnnntgann gtatacgaac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                             60
                                                                            120
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
gtacgtagtc taggccatat gtgttggaga ttgagactag tagggctagg cccaccgctg
                                                                            180
cttcgcaggc ggcaaagact agtatggcaa taggcacaat attggctaag agggagtggg
                                                                            240
tgttgagggt tatgagagta gctataatga acagcgatag tattattcct tctaggcaca
                                                                            300
                                                                            360
gtagggagga tatgaggtgt gagcgatata ctagtattcc tagaagtgag atggtaaatg
                                                                            420
ctagtataat atttatgtaa atgaggggcc ccgcgtactc aagtgggtot ctgcctctca
gtggtggcct tggtcttcaa gtttcagcaa ttctgggaag ccaaggacac ctccatctcc
                                                                            480
tectecetga tetgeaacte atetaagage agetttetea etggaatgte ttgtgtttaa
                                                                            540
ggaacaagaa tooctgttto oggtttgggt gcccaagtgc acctactgga tocaacccag
                                                                            600
gattggagat actttgcaga acacaacatc atctggcaca tgaccagcca tggtgtttca
                                                                            660
ctttcacaat ttcagcttnc ttcactgatt gcagcataat cgnggtcaac accttcaaga
                                                                            720
ccaaggctga tgtgggccgc t
                                                                            741
       <210> 301
       <211> 724
       <212> DNA
       <213> Homo Sapien
      <220>
       <221> misc_feature
       <222> (1)...(724)
       <223> n = A, T, C or G
      <400> 301
gnnnnntnen antgggeeet etngngeatn getegagegg caegecagtg tgatggatat
                                                                             60
ctgcagaatt cgccctttcg agcggccgcc cgggcaggta cgtagtctag gccatatgtg
                                                                            120
ttggagattg agactagtag ggctaggccc accgctgctt cgcaggcggc aaagactagt
                                                                            180
atggcaatag gcacaatatt ggctaagagg gagtgggtgt tgagggttat gagagtagct
                                                                            240
ataatgaaca gcgatagtat tattccttct aggcacagta gggaggatat gaggtgtgag
                                                                            300
cgatatacta gtattcctag aagtgagatg gtaaatgcta gtataatatt tatgtaaatg
                                                                            360
aggggccccg cgtactcaag tgggtctctg cctctcagtg gtggccttgg tcttcaagtt
                                                                            420
teageaatte tgggaageea aggacacete cateteetee teeetgatet geaacteate
                                                                            480
taagagcage ttteteactg gaatgtettg tgtttaagga acaagaatee etgttteegg tttgggtgee caagtgeace taetggatee aacecaggat tggagataet ttgeagaaca
                                                                            540
                                                                            600
caacatcatc tggcacatga ccagccatgg tgtttcactt tcacaatttc agcttncttc
                                                                            660
actgattgca cataatcgtg gtcaacacct tcaagaccan ggctgatgtn ggccgntaca
                                                                            720
                                                                            724
      <210> 302
      <211> 745
      <212> DNA
      <213> Homo Sapien
```

```
<220>
      <221> misc_feature
      <222> (1)...(745)
      \langle 223 \rangle n = A,T,C or G
      <400> 302
gnnnntgaaa gtntanacga ctcactatag ggcgaattgg gccctctaga tgcatgctcg
                                                                         60
                                                                        120
ageggeegee agtgtgatgg atatetgeag aattegeeet ttegagegge egeeegggca
ggtactattc cggatataca agatcactgg gagatgttga tgatggagac acagtgacag
                                                                        180
                                                                        240
atttcatggc ccaagagcga gaaagaggca ttactattca atcagctgct gttacatttg
attggaaagg ttatagagtc aatctaattg atacaccagg tcatgtggac tttaccttgg
                                                                        300
                                                                        360
aggttgagcg gtgcctaaga gtgttggatg gtgcagtggc tgtatttgat gcctctgctg
gtgtagaggc ccagactctc acagtatgga ggcaagctga taaacacaat atacctcgaa
                                                                        420
totgtttttt aaacaagatg gacaaaactg gagcaagett taagtatgca gttgaaagca
                                                                        480
                                                                        540
tcagagagaa gttaaaggca aagcctttgc ttttacagtt accaattggt gaagccaaaa
ctttcaaagg agtggtggat gtagtaatga aagaaaaact tctttggaat tgcaattcaa
                                                                        600
atgatggaaa agactttgag agaaagcccc tcttggaaat gaatgatcct gaattgctga
                                                                        660
aggaaacaac tgaagcaagg aatgccttaa ttgaacaagt tgcagaattt ggatgatgaa
                                                                        720
                                                                        745
ttgctgactt gggtttanaa naaat
      <210> 303
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1)...(724)
      <223> n = A,T,C \text{ or } G
      <400> 303
gnnnttegan tgggeeette tagatgeatg etegagegge egeeagtgtg atggatatet
                                                                         60
                                                                        120
gcagaattcg ccctttcgag cggccgcccg ggcaggtact attccggata tacaagatca
ctgggagatg ttgatgatgg agacacagtg acagatttca tggcccaaga gcgagaaaga
                                                                        180
ggcattacta ttcaatcagc tgctgttaca tttgattgga aaggttatag agtcaatcta
                                                                        240
attgatacac caggicatgt ggactitacc tiggaggitg agcggigcci aagagigtig
                                                                        300
                                                                        360
gatggtgcag tggctgtatt tgatgcctct gctggtgtag aggcccagac tctcacagta
tggaggcaag ctgataaaca caatatacct cgaatctgtt ttttaaacaa gatggacaaa
                                                                        420
actggagcaa gctttaagta tgcagttgaa agcatcagag agaagttaaa ggcaaagcct
                                                                        480
ttgcttttac agttaccaat tggtgaagcc aaaactttca aaggagtggt ggatgtagta
                                                                        540
atgaaagaaa aacttotttg gaattgcaat tcaaatgatg gaaaagactt tgagagaaag
                                                                        600
cccctcttgg aaatgaatga tcctgaattg ctgaaggaaa caactgaagc aaggaatgcc
                                                                        660
ttaattgaca agttgcagat ttggatgatg aatttgctga cttggtttta gaagaattan
                                                                        720
                                                                        724
      <210> 304
      <211> 741
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc feature
      <222> (1) ... (741)
      <223> n = A, T, C or G
      <400> 304
gnnnnnngaa agtntacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                         60
gcggccgcca gtgtgatgga tatctgcaga attcgccctt agcgtggtcg cggccgaggt
                                                                        120
actitataaa tggaattite tictactigt atceatitee eggggettat ggacceatte
                                                                        180
atacteteca tatttagaat caaaggttee tttetgaaga gacettaatt ttaaggtaaa
acgtggtcca agttcctgaa ttcccacttt cttttcactc ctgaatatgt atctgtgaaa
                                                                        300
totgaagaat atgtaatooc gttgattgtg gaatgtggca acctgccttc cgataaattg
                                                                        360
```

420

aggattatga ggaaagagag atgcaaacat acgtccaatt gaatgaccca gccgtgttgt

```
aaaattattc agaattattt caggtatgtg ttctgtgggg tccttgcctc ttctcttaat
                                                                        480
ttctttacga agacgaacac tgctcatttt aaaatgagca gttgggccat ttggcaagtg
                                                                        540
actcaaaata agtccatttg gggttttacg atcttcatta ataacaatca ggtctgtgaa
                                                                        600
atctcttgcg atgcactgtg gaataatttt tttcagaacc agcctcttct gtaataaaca
                                                                        660
tgtgagtttg gtataactgt gganagctgt cacagagtcg taccagtata ccaaccatac
                                                                        720
caactntgtt gtagagcaaa a
                                                                        741
      <210> 305
      <211> 719
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(719)
      \langle 223 \rangle n = A,T,C or G
      <400> 305
gnnnttncaa ntgggccctc tngatgcatg ctcgagcggc cgccagtgtg atggatatct
                                                                         60
gcagaattcg cccttagcgt ggtcgcggcc gaggtacttt ataaatggaa ttttcttcta cttgtatcca tttcccgggg cttatggacc cattcatact ctccatattt agaatcaaag
                                                                        120
                                                                        180
gttcctttct gaagagacct taattttaag gtaaaacgtg gtccaagttc ctgaattccc
                                                                        240
actitictiti cacticigaa tatgtatiig tgaaatiiga agaatatgta atcccgttga
                                                                        300
ttgtggaatg tggcaacctg ccttccgata aattgaggat tatgaggaaa gagagatgca
                                                                        360
aacatacgtc caattgaatg acccagccgt gttgtaaaat tattcagaat tatttcaggt
                                                                        420
atgtgttetg tggggteett geetettete ttaatttett tacgaagaeg aacaetgete
                                                                        480
attttaaaat gagcagttgg gccatttggc aagtgactca aaataagtcc atttggggtt
                                                                        540
ttacgatett cattaataac aatcaggtet gtgaaatete ttgegatgea etgtggaata
                                                                        600
attitticag agccagicci citcigiaat aaacatgiga agtitggiat acigiggana
                                                                        660
gctgtcacag agtcgacagt ataccaacca taccaactct gttgnagaac anaacccat
      <210> 306
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A, T, C or G
      <400> 306
gnnnnntgaa agtatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                         60
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                        120
180
gttatagtcc atctcatagt gttgttagga ctaatttctt catgtgctta gaaaaatgcc
                                                                        240
tggcagatag gaaatggtca atattattat tattgataag atgaccattt tggagtttag
                                                                        300
aaaaccattt tcaatgccta tgaaataaca actccataag ccattccctt aaatccagta
                                                                        360
gactgaattc tcacaaqtcc tcatcactca tcatttctac atcctqctqa tttacaaata
                                                                        420
cttcttcata ccatggttta tgtctttgct taatatcaag gaggatggat tccatggtag
                                                                        480
agccaaactc aatgatacta cgagtctcat tttggtaagt ataagcaaag ccagcagcat
                                                                        540
gcatggccac caatgaacct tttgaatcaa acacagggga gcccggaagc cccaaagaaa
                                                                        600
aattoagtgt cataggtaat cacatoangg ttgtgaacta ttttctggaa acttctttga
                                                                        660
                                                                        720
gtatacatat ggacatactc tggactttct gcttttttag actgaacacg ttcctgacat
ttctttgctc gctgaccctg anggat
                                                                        746
      <210> 307
      <211> 725
      <212> DNA
      <213> Homo Sapien
```

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<220>
      <221> misc_feature
      <222> (1) ... (725)
      \langle 223 \rangle n = A,T,C or G
      <400> 307
gnnnnntnen antggeeete tagatgeatg etegagegge egeeagtgtg atggatatet
                                                                        60
gcagaattcg ccctttcgag cggccgcccg ggcaggtact ccagcccagg cgacagagtg
                                                                       120
agactcagtc tcaaaaaaaa aaaaaatttg ggcaagttat agtccatctc atagtgttgt
                                                                       180
                                                                       240
taggactaat ttcttcatgt gcttagaaaa atgcctggca gataggaaat ggtcaatatt
attattattg ataagatgac cattttggag tttagaaaac cattttcaat gcctatgaaa
                                                                       300
taacaactcc ataagccatt cccttaaatc cagtagactg aattctcaca agtcctcatc
                                                                       360
acticate totacatect getgatttae aaatacttet teataceatg gittatgtet
                                                                       420
ttgcttaata tcaaggagga tggattccat ggtagagcca aactcaatga tactacgagt
                                                                       480
ctcattttgg taagtataag caaagccagc agcatgcatg gccaccaatg aaccttttga
                                                                       540
atcaaacaca ggggagccgg aagccccaaa gaaaaattca gtgtcatagg taatcacatc
                                                                       600
anggttgtga actattttct ggaaacttct ttgagtatac atatggacat actctggact
                                                                       660
                                                                       720
ttotgotttt ttagactgac acgttoctga catttotttg ctogotgacc otgagggato
                                                                       725
acang
      <210> 308
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A, T, C or G
      <400> 308
gnnnntgaaa gtaatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                        60
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                       120
gtacgcgggg tgacaagtag caacatggct tgggtcccct gtgcagcatc agcttatgct
                                                                       180
gccacaagtc agtttgcacc ctaggtaccc aggagctagt atccttagat ctttctatcg
                                                                       240
ctaacttaat totottogtt atttatotga coototaact coatgtotaa ottgoattaa
                                                                       300
aaaaaaaaa attotttaca gtoaacccaa gottaacatg gactcaggtt ccccagcagc
                                                                       360
cttaatttgt tttgttaaca tctgttcctt ctttttcagc tctcctagag tatttctgag
                                                                       420
tgttgtgttc atctaatctt agtattcttt taattacaaa ttgacctcac agcttgaggt
                                                                       480
ttcctgtgtc ttattctgtg gactacctgt gctcctttgc ttcccctccc ctcgcataat
                                                                       540
aactatatta agaaattttt tttggccttg agttggctgg aaaaaaaata taaaatttaa
                                                                        600
                                                                       660
aaaaaaaan nnnnnnnaa aaaaaaaaag tacctnggcc gggaccacgc taanggcgaa
ttccagcaca ctggcggccg ttactaagtg gatccgaact cggtaccaac ttggcgtaat
                                                                       720
catggcatag ctggttcctg ngga
                                                                        744
      <210> 309
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A, T, C or G
      <400> 309
gnnnntnega ntgggeeete tagatgeatg etegagegge egeeagtgtg atggatatet
                                                                        60
gcagaatteg ceetttegag eggeegeeeg ggeaggtaeg eggggtgaea agtageaaca
                                                                       120
tggcttgggt cccctgtgca gcatcagctt atgctgccac aagtcagttt gcaccctagg
                                                                       180
tacccaggag ctagtatect tagatettte tategetaac ttaattetet tegttattta
                                                                       240
                                                                       300
tetgaceete taacteeatg tetaacttge attaaaaaaa aaaaaattet ttacagteaa
eccaagetta acatggacte aggtteecca geageettaa tttgttttgt taacatetgt
                                                                       360
```

```
teettetttt teagetetee tagagtattt etgagtgttg tgtteateta atettagtat
                                                                         420
tettttaatt acaaattgae eteacagett gaggttteet gtgtettatt etgtggaeta
                                                                         480
cotgtgotco tttgottoco ctoccotcgo ataataacta tattaagaaa ttttttttgg
                                                                         540
ccttgagttg gctggaaaaa aaatataaaa tttaaaaaaa aaannnnnnn nnnnaaaaaa
                                                                         600
aaaagtoott ggoogggaco acnotaangg ogaaattooa goacaactgg goggnoogtt
                                                                         660
actaagggga atcccnaact tnggnaccon aaacttgggc gtaaaacaat gggncaataa
                                                                         720
                                                                         746
gctggnnncc ctggnggtga aaaatt
      <210> 310
      <211> 751
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(751)
      <223> n = A, T, C or G
      <400> 310
gnnnntgana gtaatacgac tcactatagg gcgaattggg ccctctagat gcatgctcga
                                                                          60
geggeegeea gtgtgatgga tatetgeaga attegeeett tegageggee geeegggeag
                                                                         120
gtacttaatg cctttctcct cctggacatc agagagaaca cctgggtatt ctggcagaag
                                                                         180
tttatatttc tccaaatcaa tttctqqaaa aaacqtqtca ctttcaaagt cttgcatgat
                                                                         240
                                                                         300
ccttgtcaca aatagtttaa gatggcctgg gtgattcatg gcttccttat aaacagaact
gccaccaact atccagacca tgtctacttt atttgctaat tctggttgtt cagtaagttt
                                                                         360
taaggcatca totagactto tggaaagaaa atgagotoot tgtggaggtt cottgagtto
                                                                         420
totgotgaga actaaattaa ttotacoott taaaqqtoga ttottotcag gaatggagaa
                                                                         480
ccaggtette ttacccataa tcaccagatt etgnttacet tetactgaag aagttgtggt
                                                                         540
cattetetgg aaatatetga atteatteet gageggtgge caaggeangt neeegttett geegatgeee atgttetggg acacagegae gatgeagttt agegaaceaa ceatgacage
                                                                         600
                                                                         660
aaccgggang accttcgagc cccgttcgnt acaagccccc gcgtaccttn gggccgngaa
                                                                         720
cacgettaag ggegaattne aacacactgg c
                                                                         751
      <210> 311
      <211> 724
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(724)
      <223> n = A, T, C or G
      <400> 311
gnnttncnan tgggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                          60
cagaattege cetttegage ggeegeeegg geaggtaett aatgeettte teeteetgga
                                                                         120
catcagagag aacacctggg tattctggca gaagtttata tttctccaaa tcaatttctg .
                                                                         180
gaaaaaacgt gtcactttca aagtcttgca tgatccttgt cacaaatagt ttaagatggc
                                                                         240
ctgggtgatt catggcttcc ttataaacag aactgccacc aactatccag accatgtcta
                                                                         300
ctttatttgc taattctggt tgttcagtaa gttttaaggc atcatctaga cttctggaaa
                                                                         360
gaaaatgagc toottgtgga ggttoottga gttototgot gagaactaaa ttaattotac
                                                                         420
cctttaaagg tcgattcttc tcaggaatgg agaaccaggt cttcttaccc ataatcacca
                                                                         480
gattctgttt accttctact gaagaggttg tggtcattct ctggaaatat ctgaattcat
                                                                         540
tectgagegg tggccaagge angteceegt tettgeegat geccatgtte tgggacacag
                                                                         600
cgacgatgca gtttancgaa ccacccatga cagcagcggg aggaccttcg agcccgctcg
                                                                         660
ttacaagece eegegtacet tnggeegega acaeettang gegaaattea acaeaetgge
                                                                         720
ggcc
                                                                         724
      <210> 312
      <211> 738
      <212> DNA
```

<213> Homo Sapien

```
<220>
      <221> misc_feature
      <222> (1)...(738)
      <223> n = A, T, C \text{ or } G
      <400> 312
                                                                        60
nnnntttgaa gnctacnact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                       120
cggccgccag tgtgatggat atctgcagaa ttcgcccttt gagcggccgc ccgggcaggt
                                                                       180
acgcgggggg cagacatggc gacattgaca gtggtccagc cgctcaccct ggacagagat
gttgcaagag caattgaatt actggaaaaa ctacaggaat ctggagaagt acgttcacta
                                                                       240
                                                                       300
attatctaca aggacaaaat cagttgtatt tacaaaactc tacttcagtg tttgttttag
                                                                       360
ttttttttt actgaaactt gtttttgtga atactctgtg cttagaatta aatatcactt
                                                                       420
tcttatgaac aacataactt cttcagattg tgtatatgaa aacattagca agtcttgttt
                                                                       480
tttctatgaa gcaaacacaa ttggtgacaa aggttgtcaa tcatttcttc aaaattataa
                                                                       540
tgcagttcta atggtcagca tattttgata ttaaatttaa agatcacctc tctgcatttg
tttttaaatt atgctaatac accacacatt atgttggtat gttttggtct gtcctcggcc
                                                                       600
gcgaccacgc ttanggcgaa ttccagcaca ctggcgggcc gttactagtg gatccgagct
                                                                       660
cggtccaagc tggcgtaatc atggtcatag ctggttcctg tgtgaaatgg tatccgttac
                                                                       720
                                                                       738
aattcccaca catacgan
      <210> 313
      <211> 720
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(720)
      <223> n = A,T,C or G
      <400> 313
                                                                        60
gnnttncaan tgggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
cagaattege cetttgageg geegeeeggg caggtaegeg gggggeagae atggegaeat
                                                                       120
                                                                       180
tgacagtggt ccagccgctc accetggaca gagatgttgc aagagcaatt gaattactgg
aaaaactaca ggaatctgga gaagtacgtt cactaattat ctacaaggac aaaatcagtt
                                                                       240
                                                                       300
qtatttacaa aactotactt cagtgtttgt tttagttttt tttttactga aacttgtttt
tgtgaatact ctgtgcttag aattaaatat cactttctta tgaacaacat aacttcttca
                                                                       360
                                                                       420
qattqtqtat atqaaaacat tagcaagtct tgttttttct atgaagcaaa cacaattggt
gacaaaggtt gtcaatcatt tottcaaaat tataatgcag ttctaatggt cagcatattt
                                                                       480
tgatattaaa tttaaagatc acctctctgc atttgttttt aaattatgct aatacaccac
                                                                       540
acattatgtt ggtatgtttt gntetgtacc teggeegega ceaegetaan ggegaattea
                                                                       600
                                                                       660
neacactgge ngneqttact agtggatecg ageteggace aaacttggeg taatcatngn
catagotggt tootgtgtga aaatggtato cgttacaatt toacacacat acgagoogga
                                                                       720
      <210> 314
      <211> 740
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (740)
      <223> n = A, T, C or G
      <400> 314
gnnnnttnaa gnctacgact cactataggg cgaattgggc cctctagatg catgctcgag
                                                                        60
cggccgccag tgtgatggat atctgcagaa ttcgccctta gcgtggtcgc ggccgaggta
                                                                       120
ctttttttt tttttttt ttagtgcttt ctactttatt aaacatcaaa gcccaaatag
                                                                       180
atgttccctg tggaggagga cttaaggaca ctaggggagg agaaagggac acctgggaag
                                                                       240
agaatcacac cacagagacc aatcttcaca aaaagggtcc aatattgatt tctagggagg
                                                                       300
agcagggcat ggtcagctca aatttggtga taacgtcagg atgaaggacc ccaagcttcc
                                                                       360
```

```
cgacgctttg accctggca aagatctctg cacatcgccc ggggaagaaa gcaggccctt
                                                                        420
ctgatgcttt gatcacatat cccccttgt cttcaccagg aggcacatcg agcaactgca
                                                                        480
taattetgte cageageeca tgaatgatet caaacceagg attettgntg taataaacag
                                                                        540
cactgagatg totgtagttt tttgcaccta catctgnatt agaatctttt attacaatgt
                                                                        600
cagagatttc aaacagtttc agtggaaggg gcatcttacg attgctgcta tggcttcagg
                                                                        660
angccaggaa gaagggtagt gcgtgccacc tgaaattcac tggtttagga tacttatgtg
                                                                        720
gactggcttt gttgcaaaan
                                                                        740
      <210> 315
      <211> 722
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (722)
      \langle 223 \rangle n = A,T,C or G
      <400> 315
gnnnnnnnn nnnnnntnn atgetgeteg ageggeegee agtgtgatgg atatetgeag
                                                                         60
aattegeect tagegtggte geggeegagg tacttttttt tittttttt tittagiget
ttctacttta ttaaacatca aagcccaaat agatgttccc tgtggaggag gacttaagga
                                                                        180
cactagggga ggagaaaggg acacctggga agagaatcac accacagaga ccaatcttca
                                                                        240
caaaaagggt ccaatattga tttctaggga ggagcagggc atggtcagct caaatttggt
                                                                        300
gataacgtca ggatgaagga ccccaagctt cccgacgctt tgacccctgg caaagatctc
                                                                        360
tgcacatcgc ccggggaaga aagcaggccc ttctgatgct ttgatcacat atccccctt
                                                                        420
gtottcacca ggaggcacat cgagcaactg cataattotg tocagcagco catgaatgat
                                                                        480
ctcaaaccca ggattettgt tgtaataaac agcactgaga tgtctgtagt tttttgcacc
                                                                        540
tacatotgna ttagaatott ttattacaat gtoagagatt toaaacagtt toagtggaaa
                                                                        600
ggggcatctt acgatttgct gctatggnct tcangaggnc angaaaaagg gtantgcntg
                                                                        660
cccctgaaat tcanctggtt taggattacc tatgtggact ggctttgntg caaaaaaatn
                                                                        720
                                                                        722
      <210> 316
      <211> 753
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (753)
      \langle 223 \rangle n = A,T,C or G
      <400> 316
gnnnnnttna nagtnnnnac gacteactat aggggegaac netetneatg catgetenan
                                                                         60
eggnennean ngtgatggat atntgetgan ttegeeetta centngenth ggeegaggeg
                                                                        120
cagnicocac giningetee neacthennn accgeagggg enengaenen gacengngnn
                                                                        180
nennngngag theeneagea etaettggga nggetanagg gaagnttgga aataaaatte
                                                                        240
caaannttgg agtaaaagca atncangcgn ngattatata tgntnnccct ttctgacacn
                                                                        300
ncctagagcg tagggggaac atgngtntat ctgtgggana tnaacaagat ggagtcccaa
                                                                        360
agactttaac aaagntattt cttaannatc cnctacaatn nanaatncat tattcatatn
                                                                        420
tactntatgc tgnnagtgag tatntatgct ngtcctattt aaacttgnga gaanaagtgg
                                                                        480
tntcccttga tacattnaga aatatggggg ctatcttgnt ncattgtggg ggtggggcan
                                                                        540
aagganaatn aatgcangat gaccctgttg aangaatctt aacatggcca acanggggac
                                                                        600
ngtttacagt cgattaccag gaaangcaag cettggggtt tetactgeng gtgggggetg
                                                                        660
tcatgaactt naaaatccan agnctatacc aggaaaaagt gttangaccc aattgaaang
                                                                        720
ctntccaccc tttcttttnn tttgttccng cnc
                                                                        753
      <210> 317
      <211> 893
      <212> DNA
      <213> Homo Sapien
```

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<220>
      <221> misc_feature
      <222> (1)...(893)
      <223> n = A,T,C \text{ or } G
      <400> 317
                                                                          60
gtgnnntntn cnaaatggnc cntttnaatg cctncctcga gcgggccgcc agtgtgatgg
atnintaatt cgnccttage giggicgegg cegnngtaen aangaaataa aaninacagi
                                                                         120
                                                                         180
ntcaaagaac caaantaagt cggacacaaa cccctgtcac cannagagtc ccatanacat
aannnggntg ntgtcaagna ggattnaaat taactttaac aacnttntat ataatgctac
                                                                         240
                                                                         300
attccccaat taataaagga nagttcacat atacanctaa ntgntaattg tggaaanaag
ggtqaaantn tgcatantta atannaaana atgctgaang cttttncata nnattnnctt
                                                                         360
                                                                         420
aaaaatncac ttncnatgca gcantangtn tacatgctta atntatcntg cnagtgattn
ntatgettgt cetacatgae ntacettgaa caactggnae tneccagatt catactgaaa
                                                                         480
                                                                         540
tatggggncg ntaantatnt tgggancggn annachtgaa tootcaaagg atannnnntn
tecagninga tgaaacenat natinaaang gatatnnina accainggan egaatgnneg nngntettit teaatnnine gngaagnine enntinnata neeegngge encatigngg
                                                                         600
                                                                         660
ggnntatntn ncaatcaann conngagntg thtnntchtt chtchacege ataacetttt
                                                                         720
                                                                         780
gecataggga acctinitin aaccccttig gnitainggg aaanaannnn nniittaaat
tenecaaaat ngggaaaaan aaccettnte actetaaaaa nttancenta gacetanttn
                                                                         840
tngngncata tttgntaaac nctatggncc ctcnagnggg gnnctgggnc nnc
      <210> 318
      <211> 744
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(744)
      <223> n = A,T,C or G
      <400> 31B
gnnnngattg tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
                                                                          60
ggccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                          120
acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc
                                                                          180
                                                                         240
acctgagata acagaatgaa aatggaagga cagccagatt teteetttgc tetetgetca
                                                                          300
ttetetetga agtetaggtt acceattttg gggacceatt ataggeaata aacacagtte
ccaaagcatt tggacagttt cttgttgtgt tttagaatgg ttttcctttt tcttagcctt
                                                                         360
                                                                          420
ttcctgcaaa aggctcactc agtcccttgc ttgctcagtg gactgggctc cccagggcct
aggetquett ettttecatq teccaccat gageceteca etggacaget cagtaageet
                                                                         480
ggcccttcat totgcgctgt gttcttcctc tgtgaaaatc caatacctct tacctcctct
                                                                          540
gcatgcaaag attctcaagg attgtcagac ttcaaacgta acagcagaac caccagaagg
                                                                          600
tectataaat geagtagtga eetteteaag etgteangge tttaaatagg atttgggatt
                                                                          660
taatgctatg tatttttaaa ggaaagaaat aagagttgct agttttaaaa atgcatgtct
                                                                         720
                                                                          744
tttaccaatt canaatctgg cccc
      <210> 319
      <211> 720
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (720)
      <223> n = A, T, C or G
      <400> 319
                                                                          60
gngtttaaac cttcttanng ctgctcgagc ggccgccagt gtgatggata tctgcagaat
tegecettte gageggeege eegggeaggt aceteattag taattgtttt gttgttteat
                                                                         120
                                                                          180
ttttttctaa tgtctcccct ctaccagctc acctgagata acagaatgaa aatggaagga
```

```
240
cagccagatt totootttgc tototgctca ttototctga agtotaggtt acccattttg
gggacccatt ataggcaata aacacagttc ccaaagcatt tggacagttt cttgttgtgt
                                                                         300
                                                                         360
tttagaatgg ttttcctttt tcttagcctt ttcctgcaaa aggctcactc agtcccttgc
                                                                         420
ttgctcagtg gactgggctc cccagggcct aggctgcctt cttttccatg tcccacccat
gagccctcca ctggacagct cagtaagcct ggcccttcat tetgegetgt gttetteete
                                                                         480
tgtgaaaatc caatacctct tacctcctct gcatgcaaag attctcaagg attgtcagac
                                                                         540
ttcaaacgta acagcagaac caccagaagg tcctataaat gcagtagtga ccttctcaag
                                                                         600
                                                                         660
ctgtcanggc tttaaatagg atttgggatt taatgctatg tatttttaaa ggaaagaaat
agagttgcta gttttaaaaa tgcatgtctt ttaaccaatt cagaatctgg ccccnaactt
                                                                         720
      <210> 320
      <211> 694
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (694)
      \langle 223 \rangle n = A,T,C or G
      <400> 320
atgetegage ggneggeant gtgatggatn tetgeagaat tegecettte gageggeege
ccgggcaggt actattccgg atatacaaga tcactgggag atgttgatga tggagacaca
                                                                         120
                                                                         180
gtgacagatt tcatggccca agagcgagaa agaggcntta ctattcaatc agctgctgtt
acatttgatt ggaaaggtta tagagtcaat ctaattgata caccaggtca tgtggacttt
                                                                         240
                                                                         300
accttqqaqq ttqaqcggtg cctaagagtg ttggatggtg cantggctgt atttgatgcc
totgotggtg tagaggccca gactntcaca gtatggaggc aagctgataa acacaatata
                                                                         360
cctcgaatct gttttttaaa caagatggac aaaactggag caagctttaa gtatgcagtt
                                                                         420
gaaagcatca gagagaagtt aaaggcaaag cetttgettt tacagttace aattggtgaa
                                                                         480
gccaaaactt tcaaaggagt ggtggatgta gtaatgaang aaaaacttct ttgggaattg
                                                                         540
caattcaana tgatggaaaa gactttgaga gaaagcccct cttggaaatg aatgatcctg
                                                                         600
                                                                         660
aattqctqaa qqaaacaact gaacaaggaa tgccttaatt gaacaaagtt gcagatttgg
                                                                         694
atgatgaatt tgctgacttg gttttaagaa gaat
      <210> 321
      <211> 781
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(781)
      <223> n = A, T, C \text{ or } G
      <400> 321
gngttnacna ntgggccctc tngatgctgc tcgagcggcc gncagtgtga tggatntctg
                                                                           60
cagaatnege cetnegggeg geegneeggg caggtactat neeggatata caagateact
                                                                          120
gggagatgtt gatgatggag acncagngac agatttcatg gcccaagagc gagaaagagg
                                                                          180
cnttactatn caatcagctg ctgttacatt cgattggaaa ggttatngag tcaatctaat
                                                                          240
tgatncacca ngtnatgtgg actttacctt ggaggttgag cggtgcctaa nagtgttgga tggtgcanng gctgtatttg atgcctctgc tggtgtagag gcccagactc tcacagtatg
                                                                         300
                                                                          360
gatgcaagct gataaacaca atatacctng aatctgtgtt ttaaacaaga tggacaaaac
                                                                          420
                                                                          480
tggagcaagc tttaaagtnt gcagttgaaa gcatcagaga gangttnaag gcanagcctt
tgcttttaca gtttcccaat tgggtgaaac ccaaaacttt tcaaagggag ttggttggat
                                                                          540
                                                                          600
tgtaagtaat gaaaggaaaa acttctttgg gaaantggca atttcaanat gattggaaaa
ngacttttgg gagaaaagcc ccttcttggg aaaatngaaa tgatncctga aatttgcngt
                                                                          660
aaanngaaaa cnaacntgna atccaangga attncccttt aanttggaac aaaggnttgc
                                                                          720
naanttttng attgaatnga atttgnonga ontttnggtt ttangaaaga aattaaagng
                                                                          780
                                                                          781
q
      <210> 322
```

<210> 322 <211> 744

```
<212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (744)
      <223> n = A,T,C or G
      <400> 322
gnnntganag tatcgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                         60
geoegecagt gtgatggata tetgeagaat tegecettte gageggeege cegggeaggt
                                                                       120
acgogggac tgggtttttc tccttttgta gccttttcct ttagtctcct cttcccggtg
                                                                       180
gttggtaaaa agaggtgaat tgacagccta tgttgaagac actgtgcttt tctcaagaag
                                                                       240
gacatccaaa cagcaagtet aettetttet etttaaegat gtgeteatta teaccaagaa
                                                                       300
gaagagtgaa gaaagttaca acgtcaatga ttattcctta agagatcagc tattggtgga
                                                                       360
atcttgtgac aatgaagagc ttaattcttc tccagggaag aacagctcca caatgctcta
                                                                       420
ttcaagacag agetetgeca gteacetett taetetgaca gteettagta accaegegaa
                                                                       480
tgagaaagtg gagatgctac taggagctga gacgcagagc gagcgagccc gctggataac
                                                                       540
tgccctggga cacagcagcg ggaagccgcc tgcagaccga acctnactga cccaggtgga
                                                                       600
aatcgttagg tcatttactg ctaagcagcc agatgaactc ttcctgcagt ggctgacgtc
                                                                       660
                                                                       720
gtecteatet ateaaegtgt eagegatgge tggtatgaag gggaaegaet tegagatgga
                                                                       744
gaaagaagnt gggttcctat ggaa
      <210> 323
      <211> 723
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (723)
      <223> n = A, T, C or G
      <400> 323
gtgtttcaan cggtcctcta gatgctgctc gagcggccgc cagtgtgatg gatatctgca
                                                                         60
gaattegeee tttegagegg eegeeeggge aggtacgegg ggaetgggtt ttteteettt
                                                                        120
tgtagccttt tcctttagtc tcctcttccc ggtggttggt aaaaagaggt gaattgacag
                                                                        180
cctatgttga agacactgtg cttttctcaa gaaggacatc caaacagcaa gtctacttct
                                                                        240
ttctctttaa cgatgtgctc attatcacca agaagaagag tgaagaaagt tacaacgtca
                                                                       300
atgattattc cttaagagat cagctattgg tggaatcttg tgacaatgaa gagcttaatt
                                                                       360
ettetecagg gaagaacage tecacaatge tetatteaag acagagetet gecagteace
                                                                        420
tetttaetet gacagteett agtaaceaeg egaatgagaa agtggagatg etaetaggag
                                                                        480
etgagaegea gagegagega geeegetgga taactgeeet gggacacage agegggaage
                                                                        540
egetgeagae egaaceteae tgacecaggt ggaaategtt aggteattta etgetaagea
                                                                        600
gccagatgaa ctcttcctgc angtggctga cgtcgtcctc atctatcaac gtgtcancga
                                                                        660
                                                                        720
tggtggtatg aaggggaacg actacnagat ggagaaagaa gctggtttcc tatggaatgt
gcc
                                                                        723
      <210> 324
      <211> 746
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(746)
      <223> n = A,T,C or G
      <400> 324
gggnttgaag nenegactea etatagggeg aattgggeee tetagatgea tgetegageg
                                                                         60
gcccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                       120
cttgagatct gagcaactgt gttaatgaag taatagcaat ggtccacagt gaaagatgtg
                                                                       180
```

```
ttggggtttg caaaacaagc attccgtcac ctctttaata atgtcacaga cttttttaaa
                                                                       240
                                                                       300
agagaggcta tcaagttgta atataatctg tcatgtttta tttaggaagg aaggtaaatt
tgtgcttgca cggggatcat tttgtattat ttntgctaat acccagttga agctaaaaag
                                                                       360
caactatttg aatcotgtga attaatttat aagaatgtta aacagctntg gaaatacatg
                                                                       420
catcttatga atcatagcct tatttagcaa gatcaatgtt aaagtgttga tatatggcaa
                                                                       480
                                                                       540
gtatttaaca cattcacagt gntagtttga tttcaactgt gaattgtctt acagtttttt
caaacctagt gintctatgg acaccigcic tgaatigtac cccicagica ccaccaaagc
                                                                       600
atttncaccc ctttcaaccc ccaatcagac cantgctttc agtggtattg gaggacttnt
                                                                       660
atcacagett catnangtgg tettggcaca ggcagnetga etngettngg aactggtget
                                                                       720
                                                                       746
tttggactcc cttcaanngn aatant
      <210> 325
      <211> 742
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (742)
      <223> n = A, T, C or G
      <400> 325
gtgtttcann eggeeeteta gatgeatget egageggeee geeagtgtga tggatatetg
                                                                        60
                                                                       120
cagaattege cettagegtg gtegeggeeg aggtacettg agatetgage aactgtgtta
atgaagtaat agcaatggtc cacagtgaaa gatgtgttgg ggtttgcaaa acatgcattc
                                                                       180
cgtcacctct ttaataatgt cacagacttt tttaanagag aggctatcaa gttgtnatat
                                                                       240
                                                                       300
aatctgtcat gtattattta agaaggaagg taaatntgtg cttgcacggg gatcattttg
nattattnet getnatacce agetgaaget nanaanenae tntttgnate etgtgantta
                                                                       360
                                                                       420
atnoatanna atgttanaca gotntggaaa tooatgooto ttatgaatoa tngoottatt
tancangate aatgitaaag nigitgatat nnggeaagin intaacacat inacaniget
                                                                       480
agtntgattt caactgngaa ttgncttacc gtntttnnaa acctananga atntatngac
                                                                       540
                                                                       600
acctneteth aathgnnhee eteaaneace achaaanett tinenneest incaaccee
natengacen engeatteag tngnaaneng aangaettte atcacaactg gneaanatnt
                                                                       660
nggaetttgg egecatgenn accetettgg netttngaac nnggttgeet tttnggaett
                                                                       720
tnencetgng ngataaccae en
                                                                       742
      <210> 326
      <211> 747
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (747)
      <223> n = A,T,C or G
      <400> 326
atgntttaag tatacgactc actatagggc gaattgggcc ctctagatgc atgctcgagc
                                                                        60
ggccgccagt gtgatggata tctgcagaat tcgccctttc gagcggccgc ccgggcaggt
                                                                       120
actgtatcat tggcagatgt gacgtcaccg acaaccagag tgaagtggcg gacaaaactg
                                                                       180
aggattacct gtggctgaag ttgaaccaag tgtgttttga cgacgatggc accagctccc cacaagacag gctcactctc tcacagttcc agaagcagtt gttggaagac tatggcgagt
                                                                       240
                                                                       300
cccactttac ggtgaaccag caaccettcc tctacttcca agtcctgttc ctgacagcgc
                                                                       360
420
atgtagcact ggtgctgttt gagctgaagc tgcttttaaa gtcctctgga cagagtgctc
                                                                       480
aacteeteag ceaegaacet ggtgaceett ettgettgeg geggetgaac ttegtgegge
                                                                       540
tecteatget gtacetegge egngaceaeg etaagggega attecageae actggeggne
                                                                       600
gttactagtg gatccgagct cggtaccaaa cttggcgtaa tcatggncat agctggttcc
                                                                       660
tgtgtgaaat ggtatccgtt acaatttcac acaacatacg agccgggaag catnaagtgt
                                                                       720
naaacctggg gtgcctnatg agtgacn
                                                                       747
```

```
<211> 724
       <212> DNA
       <213> Homo Sapien
       <220>
       <221> misc_feature
       <222> (1)...(724)
       <223> n = A, T, C or G
       <400> 327
gtnatgaaac cnttctntng ngcatgcteg ageggeegee agtgtgatgg atatetgeag
aattegeeet ttegagegge egeeegggea ggtaetgtat cattggeaga tgtgaegtea
                                                                          120
ccgacaacca gagtgaagtg gcggacaaaa ctgaggatta cctgtggctg aagttgaacc
                                                                          180
aagtgtgttt tgacgacgat ggcaccagct ccccacaaga caggctcact ctctcacagt
                                                                          240
tecagaagea gttgttggaa gactatggeg agteceaett taeggtgaae cageaaceet
                                                                          300
tectetaett ccaagteetg tteetgacag egeagtttga ageageagtt geetttettt
                                                                          360
teegeatgga geggetgege tgeeatgetg teeatgtage aetggtgetg tttgagetga
                                                                          420
agetgetttt aaagteetet ggacagagtg eteageteet eagecacgag eetggtgace
                                                                          480
ctccttgctt gcggcggctg aacttcgtgc ggctcctcat gctgtacctc ggccgcgacc
                                                                          540
acgctaaggg cgaattccag cacactggcg gccgttacta gtggatccga gctcggtacc aagcttggcg taatcatggt catagctgtt tcctgtgtga aattgtatcc gctcacaatt
                                                                          600
                                                                          660
ncacacaaca tacgagccgg aagcataaag tgtaaaacct ggggtgccta atgagtgaac
                                                                          720
taan
                                                                          724
      <210> 328
      <211> 747
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(747)
      <223> n = A, T, C or G
      <400> 328
tgnntgttag atacgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                           60
gcccgccagt gtgatggata tctgcagaat tcgcccttag cgtggtcgcg gccgaggtac
                                                                          120
tttttttttt ttttttaaag acagagtctt gctctgtcac ccaggctgga gtgcagtggc
                                                                          180
acgatetegg etcaetgeaa getetgeete eegggtteae gecattetee tgeeteagee
                                                                          240
tcccgagtag ctgggactac aggtgcccgc caccatgccc ggctgatttc tttttgtatt
                                                                          300
tttagtagag acggagtttc accgtgttag ccaggatggt ctcgatctcc tgacctcgtg
                                                                          360
attecgeeege ettggeetee aaagtgetgg gattacaggt gtgagetace gegeeeggee
                                                                          420
tattatcttg tactttctaa ctgagccctc tattttcttt attttaataa tatttctccc
                                                                          480
cacttgagaa tcacttgtta gttcttggta ggaattcagt tgggcaatga taacttttat
                                                                          540
gggcaaaaac attctattat agtgaacaaa tgaaaataac agcgtatttt caatattttc
                                                                          600
ttattootta aattooacto ttttaacact atgottaaco acttaatgtg atgaaatatt
                                                                          660
cctaaaagtt aaatgactat taaagcatat attggtgcat gnatatatta aagtacccga
                                                                          720
tactctaaat aaaaatccac tggtccn
                                                                          747
      <210> 329 <211> 725
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(725)
      <223> n = A,T,C or G
      <400> 329
gegttteaan tgggeeetet ngngeatget egageggeeg ceagtgtgat ggatatetge
                                                                           60
agaattegee ettagegtgg tegeggeega ggtaetttt tttttttt taaagacaga
                                                                          120
```

```
gtettgetet gteaccagg etggagtgea gtggeacgat eteggeteac tgcaagetet
                                                                       180
                                                                       240
qcctcccqqq ttcacqccat tctcctgcct cagcctcccg agtagctggg actacaggtg
                                                                       300
cccgccacca tgcccggctg atttcttttt gtatttttag tagagacgga gtttcaccgt
gttagccagg atggtctcga tctcctgacc tcgtgatccg cccgccttgg cctccaaagt
                                                                       360
getgggatta caggtgtgag ctaccgcgcc cggcctatta tettgtaett tetaactgag
                                                                       420
contotattt totttatttt aataatattt ciccocactt gagaatcact tgttagttot
                                                                       480
tggtaggaat tcagttgggc aatgataact tttatgggca aaaacattct attatagtga
                                                                       540
acaaatgaaa ataacagcgt attttcaata ttttcttatt ccttaaattc cactctttta
                                                                       600
acactatgct taaccactta atgtgatgaa atattcctaa aagttaaatg actattaaag
                                                                       660
catatattgg tgcatgtata tattaagtag cccgatctct naataaaaat ccactggtac
                                                                       720
                                                                       725
agata
      <210> 330
      <211> 741
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1)...(741)
      <223> n = A, T, C or G
      <400> 330
gnnntganag atacgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                        60
gecegecagt gtgatggata tetgeagaat tegecettag egtggtegeg geegaggtae
                                                                       120
ttttttttt tttttttt tttttttt ggaagtttaa tttactcaca gttcaacatg
                                                                       240
getggggagg cetcaggaaa tttacaatta taacagaagg caaaggggaa gecagatace
ttcttcacaa ggtggcagga aggagaagag ccgagagaag gcggaagaat cccttataaa
                                                                       300
accatcagat ctcgtgagaa ctcacttgct atcaggagaa cagcatgggg gaaccgcccc
                                                                       360
caggattcaa tgacctncac ctggtctctc ccttgacacg tgaggattat ggggattaca
                                                                       420
                                                                       480
attocagatg agatttgggt ggggacacaa agccaaacca tatcaactgt gactaccttg
ggtaagggc atccaggcag aggcagggg aacattetgg gcaaaggcet tggggcaggg
                                                                       540
gcctggtatg ttcagatagc ancaagtagg ccagantggc cggaggggag taagtgtggg
                                                                       600
gaggccagtg ganagatgag ggtagggaag ggatggatca gatcatgcag ggccccgggg
                                                                       660
gccacaggaa ngacctnagc atttactgca agtaangtgg gaaccatcga atgtctaagc
                                                                       720
naggaggaat ccctgtgact c
                                                                       741
      <210> 331
      <211> 727
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (727)
      \langle 223 \rangle n = A,T,C or G
      <400> 331
gtnnnncgan ngggccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg
                                                                        60
cagaattege cettagegtg gregeggeeg aggtaetttt ttttttttt ttttttttt
                                                                       120
ttttttggaa gtttaattta ctcacagttc aacatggctg gggaggcctc aggaaattta
                                                                       180
caattataac agaaggcaaa ggggaagcca gataccttct tcacaaggtg gcaggaagga
                                                                       240
                                                                       300
gaagagccga gagaaggcgg aagaatccct tataaaacca tcagatctcg tgagaactca
                                                                       360
cttgctatca ggagaacage atgggggaac cgcccccagg attcaatgac ctccacctgg
                                                                       420
teteteeett gacaegtgag gattatgggg attacaatte cagatgagat ttgggtgggg
acacaaagcc aaaccatatc aactgtgact accttgggta agggccatcc aggcagaggc
                                                                       480
agggggaaca ttctgggcaa aggccttggg gcaggggcct ggtatgttca gatagcagca
                                                                       540
agtaggccag antqgccqga ggggagtaag tgtggggagg ccagtggaaa aatganggta
                                                                       600
gggaaaggga tggatcagat catgcagggc cccgggggcc acangaagga cctnacattt
                                                                       660
actgcaagta angtgggagc catcgaatgt tctaagcana ngangaatcc ctgngactca
                                                                       720
                                                                       727
ngtgttn
```

```
<210> 332
      <211> 734
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (734)
      <223> n = A,T,C or G
      <400> 332
                                                                        60
gnntganagt atacgactca ctatagggcg aattgggccc tctagatgca tgctcgagcg
                                                                       120
geoegecagt gtgatggata tetgeagaat tegecettte gageggeege eegggeaggt
                                                                       180
accetteteg ettttgecat tagecaagga tagaagetge agtggtatta attttgatat
                                                                       240
aatotttcaa accagottca tgtggcttcc cttttctttg ttcaagatga gggccaggag
gggaaacatc acacctgccc taaaccctgt tcctggaggt cagcatttga tctgttgcaa
                                                                       300
geocetettt etgteeeste tteetaeset gesteesatg aetttgetes teacaetttt
                                                                       360
ggaaccatgc cttccggggg ggcccatctc ttctggccgt ccttgtctct gggccacttg
                                                                       420
                                                                       480
gagtgtgtga taaatcagtc aagctgttga agtctcagga gtctctggta gcctgcagaa
                                                                       540
gtaageetea teateagage ettteeteaa aactggagte eeaaatgtea teaggttttg
                                                                       600
nttttttttc aaccactaag aacccctctg cttttaactc tagaatttgg gcttggacca
gatctaacat cttgaatact ctgccctcta gaccttcacc ttaatggaan gtggatccca
                                                                       660
                                                                       720
nganggtgta atggacatca agccactcgc ggcagcatgg agctatacta agcatcctta
                                                                        734
nggtctgcct ctcn
      <210> 333
      <211> 710
      <212> DNA
      <213> Homo Sapien
      <220>
      <221> misc_feature
      <222> (1) ... (710)
      <223> n = A, T, C or G
      <400> 333
ntgggccctc tngngctgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc
                                                                         60
ctttcgagcg gccgcccggg caggtaccct tctcgctttt gccattagcc aaggatagaa
                                                                        120
gctgcagtgg tattaatttt gatataatct ttcaaaccag cttcatgtgg cttccctttt
                                                                        180
ctttgttcaa gatgagggcc aggaggggaa acatcacacc tgccctaaac cctgttcctg
                                                                        240
gaggtcagca tttgatctgt tgcaagcccc tctttctgtc ccctcttcct accctgcctc
                                                                        300
                                                                        360
ccatgacttt getecteaca ettttggaac catgeettee gggggggeee atetettetg
                                                                        420
geogteettg tetetgggee acttggagtg tgtgataaat cagteaaget gttgaagtet
caggagtete tggtageetg cagaagtaag ceteateate agageettte etcaaaactg
                                                                        480
                                                                        540
gagteceaaa tgteateagg ttttgttttt tttteageea etaagaacce etetgetttt
aactotagaa tttgggottg gaccagatot aacatottga atactotgco ototagagco
                                                                        600
                                                                        660
ttcagcctta atggaagggt ggatccaang anggtgtaat ggaacatcaa gccactcgcg
                                                                        710
gcagcatgga gctatactaa gcatccttta nggtctgcct cttcagcatt
      <210> 334
      <211> 2051
      <212> DNA
      <213> Homo sapien
      <220>
      <221> misc_feature
      <222> (1)...(2051)
      <223> n = A, T, C or G
      <400> 334
                                                                         60
gecettgeet cagectacee agtagetggt gatggecate ettttataaa tgeaaegtee
ttegtteetg ttaagteatg ggggaggaag geettttete tetteagtet aataateaac
                                                                        120
```

```
tgttcactat tcacaatagc aacatcatgg gctgaaccta tgtgtccatc aacagatgat
                                                                      240
tagattttaa aatgtgcata tataccatgg aatacatacg caaccatcaa aaataatgaa
                                                                      300
atcacatett ttgcagcaat atggatggaa ctggaageee ttategtaag tgaaatgact
                                                                      360
cagagacaga aagtcagaaa ctgcatgttc tcatttggaa actgaaaatc acacacacat
aaatctaata aagacatggg tactttattt tcaaaacact catatgttgc aaaaaacaca
                                                                      420
                                                                      480
tagaaaaata aagtttggtg ggggtgctga ctaaacttca agtcacagac ttttatgtga
                                                                      540
cagattggag cagggtttgt tatgcatgta gagaacccaa actaatttat taaacaggat
agaaacaggc tgtctgggtg aaatggttct gagaaccatc caattcacct gtcagatgct
                                                                      600
                                                                      660
gatagactag ctcttcagat gtttttctac cagttcagag atgggttaat gactagttcc
aatggggaaa aagcaagatg gattcacaaa ccaagtaatt ttaaacaaag acacttttt
                                                                       720
                                                                      780
ttttttttgc aacacaatat acatcacagt gaaatgtgta atccttgcaa attgcaagtt
gaaagaatta aattcagagg aggggagaga aagagtactc agtagggact gagcactaaa
                                                                      840
                                                                      900
tgcttatttt aaaagaaatg taaagagcag aaagcaattc aggctaccct gccttttgtg
ctggctagta ctccggtcgg tgtcagcagc acgtggcatt gaacattgca atgtggagcc
                                                                      960
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Interna. Il Application No PCT/US 99/13181

A. CLASSIFICATION OF SUBJECT MATTER IPC 6 C12N15/12 C07 C07K16/18 C07K14/47 C12Q1/68 G01N33/68 A61K31/70 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) C12N C07K Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. Category ' 1,2,7-9 HILLIER, L. ET AL.: "WashU-NCI human EST project: zu71f08.sl Soares testis NHT Homo sapiens cDNA clone 743463" EMBL DATABASE ENTRY AA609384, 1 October 1997 (1997-10-01), XP002128750 the whole document HILLIER, L. ET AL.: "WashU-NCI human EST 1.2.7-9 A project 1997: zv83c03.sl Soares total fetus Nb2HF8 9w Homo sapiens cDNA clone 760228* EMBL DATABASE ENTRY HS1226101; ACCESSION NUMBER AA425141 (VERSION 2), 28 October 1997 (1997-10-28), XP002128751 the whole document -/--Further documents are listed in the continuation of box C. X Patent family members are listed in annex. Χ Special categories of cited documents : T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another "Y" document of particular relevance; the claimed invention citation or other special reason (as specified) cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled "O" document referring to an oral disclosure, use, exhibition or other means in the art. *P* document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 0 2 05 2000 26 January 2000 Authorized officer Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, ANDRES S.M.

Fax: (+31-70) 340-3016

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Internat J Application No
PCT/US 99/13181

	ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim N	o .
A	HILLIER, L. ET AL.: "WashU-NCI human EST project: za83e08.rl Soares fetal lung NbHL19W Homo sapiens cDNA clone 299174" EMBL DATABASE ENTRY HS287326; ACCESSION NUMBER W05287,8 May 1996 (1996-05-08), XP002128752 the whole document	1,2,7-	•
A	WO 98 04689 A (UROCOR INC) 5 February 1998 (1998-02-05) page 4, line 8 -page 5 page 13 -page 52 page 66 -page 85 page 112 -page 122	1-11	
A	HELLER ET AL: "DISCOVERY AND ANALYSIS OF INFLAMMATORY DISEASE-RELATED GENES USING cDNA MICROARRAYS" PROCEEDINGS OF THE NATIONAL ACADEMY OF		
	SCIENCES OF USA, vol. 94, March 1997 (1997-03), pages 2150-2155, XP002100125 ISSN: 0027-8424		
	·		

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international application No.

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
gee addressman smeet
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. X No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-11 (all partially)
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box 3.

Although claims 8 to 11 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Further defect(s) under Article 17(2)(a):

Continuation of Box 3.

Claims Nos.: 3 and 6

Present claims 3 and 6 relate to a nucleic acid sequences defined only by the (arbitrary) name of the clone they originate from. The use of these names in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to relate the clone names as given in claims 3 and 6 with the to be searched polynucleotide defined by SEQ ID 1. Consequently, no search has been carried out for claims 3 and 6 in the context of the first subject as mentionned on the communication pursuant to Art. 17(3)(a) PCT.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: Claims 1-11 (all partially)

A method for diagnosing or treating a prostate disorder by providing a probe, antisense, ribozyme capable of hybridizing to SEQ ID 1 or its complement, or an antibody capable of binding to a polypeptide encoded by SEQ ID 1.

Inventions 2 to 339: Claims 1,2,4,5,7-11 (all partially) and 3,6, 12-15 (all partially and as far as applicable)

As for subject 1. but respectively relating to SEQ IDs 2 to 339 (i.e. subject 2. corresponding to SEQ ID 2, subject 3. corresponding to SEQ ID 3,..., subject 339. corresponding to SEQ ID 339) and when applicable including the polynucleotide, vectors, cells and a composition containing the corresponding polypeptide.

Information on patent family members

Interna: Il Application No PCT/US 99/13181

Patent document	Publication date	Patent family	Publication	
cited in search report		member(s)	date	
WO 9804689	A 05-02-1998	AU 6642996 A EP 0951541 A US 5882864 A	20-02-1998 27-10-1999 16-03-1999	